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VALENTINE'S VALSPAR
 The Varnish That Won't Turn White

SUCCESSFUL FARMING

FOR THE BUSY, PRACTICAL, WORKING FARMERS OF AMERICA, WHOSE INTERESTS DETERMINE ITS POLICY

E. T. MEREDITH
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In Our Mutual Interests

WITH WHICH WRITER DO YOU AGREE?

Here are extracts from two letters which came in recently from subscribers. The first one said, "Please stop my paper. There is nothing in it that will help me in any way."

The second one said, "Here's my renewal. I like Successful Farming. If a person can't get his money's worth out of Successful Farming he wouldn't be satisfied with a five-dollar gold piece for ninety-eight cents."

The latter letter bears out our statement that a single issue may be worth many times the price of a year's subscription. I think I know what's the matter with the first fellow. He hasn't read the magazine. Successful Farming contains such a large number of articles and suggestions that no one can get all of the good out of it in one or two hours' time.

My suggestion would be that you use the index in the next column. Pick out the department that is of the most interest to you. It might be the editorials on pages 8 and 9, or the feature articles in the first part of the book. Perhaps it is the livestock articles, or the dairy department, the poultry department, the home department, or the garden and orchard. All of these are regular departments in every issue.

Most of the articles in Successful Farming are the actual experiences of other farmers. They tell in a clear-cut way just exactly how different people have made and saved money, improved their homes, and profited by reading the many helpful things in farm magazines.

We want you to get the full benefit of this copy—the April number. Successful Farming editors have been busy for weeks selecting the things that would be of greatest benefit to you at this particular time of the year. Every article had to stand our regular test, "Is it of interest and value to a large percentage of our readers?"

As you read each article, why not apply it to your business? Will it help you in some way? If it will, cut out the article and paste it in a scrap book, or file this copy of the magazine away carefully so that you can find it when you want it. There are in it probably more than one hundred different suggestions, many of which can be used to definite advantage right on your own farm.

If your subscription has expired, or will expire soon, better send your renewal. There are some splendid articles coming in the May number which we are sure you won't want to miss. Subscription rate: 5 full years—60 big copies—for only \$1.

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From Friend to Friend

HONESTY PAYS

Truth—just one simple word—is the slogan of the advertising clubs, which now cover the world.

Honesty is not merely the best policy for advertisers—it is the only policy. Each advertisement in Successful Farming or other publications is a message signed by the firm. Responsibility is definitely fixed.

The last few years have witnessed a fine separation of the sheep from the goats. Firms which advertise "Pure Virgin Wool" and sell shoddy are quickly found out. Their customers will have nothing more to do with them. Every purchaser who is "soaked" becomes a liability. He tells his friends to look out for that firm.

When you consider this angle of merchandising, it is easy to realize that business firms must tell the truth in their signed announcements.

Successful Farming is especially careful as to the advertising admitted to its columns. We have always guaranteed our subscribers against loss thru dishonest practices. Thousands of dollars worth of advertising is rejected nearly every month because it does not meet our standards.

These are among the reasons why our advertising pages are reliable guides to honest merchandise.

The advertisements are bonds of confidence between you and the manufacturers. Read them regularly. They will keep you informed regarding the newest and best products of all kinds, will save you hours of shopping, make your money go farther and insure goods of known quality at fair prices. This applies whether you buy directly from the advertiser by mail or from your local dealer.

By reading the advertisements you also help the local merchant to give you better service. Knowing just what you want, time is saved in the store and the merchant can wait upon his many customers more promptly and satisfactorily.

In selling trademarked and advertised goods, the merchant knows that if any dissatisfaction should arise he has the manufacturer squarely back of him. Such products are guaranteed and the merchant serves you with confidence, based on his past experience with the line and past relations with the firm.

Advertisers must be fair and honest if they are to remain advertisers. There is probably no quicker way to commit business suicide than to give wide circulation to claims that are exaggerated or misleading, over the signature of the house that stands responsible for the merchandise.

E. T. MEREDITH, Publisher.

GUARANTEE OF ADVERTISERS

Our guarantee is squarely back of every advertisement and every advertiser in Successful Farming. We will not knowingly accept advertising from a dishonest concern. Advertisements for tobacco, patent medicines, liquor or mining schemes or any other questionable advertising are not accepted under any condition. Our readers are our friends and an advertisement in Successful Farming is an introduction of the advertiser into the homes of our friends.

We will not knowingly introduce a dishonest advertiser into your home thru

the pages of Successful Farming and guarantee his honesty any more than you would knowingly introduce a dishonest person to your banks and guarantee his note. We refuse many thousands of dollars worth of advertising each month because we are not willing to guarantee these advertisers' promises whether you buy of the local dealer or direct from the manufacturer but we do not guarantee the debts of an honest bankrupt. When you answer an advertisement refer to this guarantee.

INFORMATION FOR SUBSCRIBERS

Subscription Rate.—Five years for \$1, payable in advance. One year for 25 cents. Single copies, 5 cents. Rates to subscribers in Canada, other foreign countries, and to subscribers in the eighth zone, one year for 75 cents. Successful Farming is sold to every subscriber, without exception, strictly on a guarantee of satisfaction. Any time you're not satisfied, just say so and the money you have paid for your subscription will be cheerfully refunded.

Renewal.—The date on the address label of each paper shows the time to which the subscription is paid and is the subscriber's receipt. The paper is paid for to and including the month of the year indicated on the label. If the date on the label is not changed upon receipt of the second paper after payment of subscription, or if

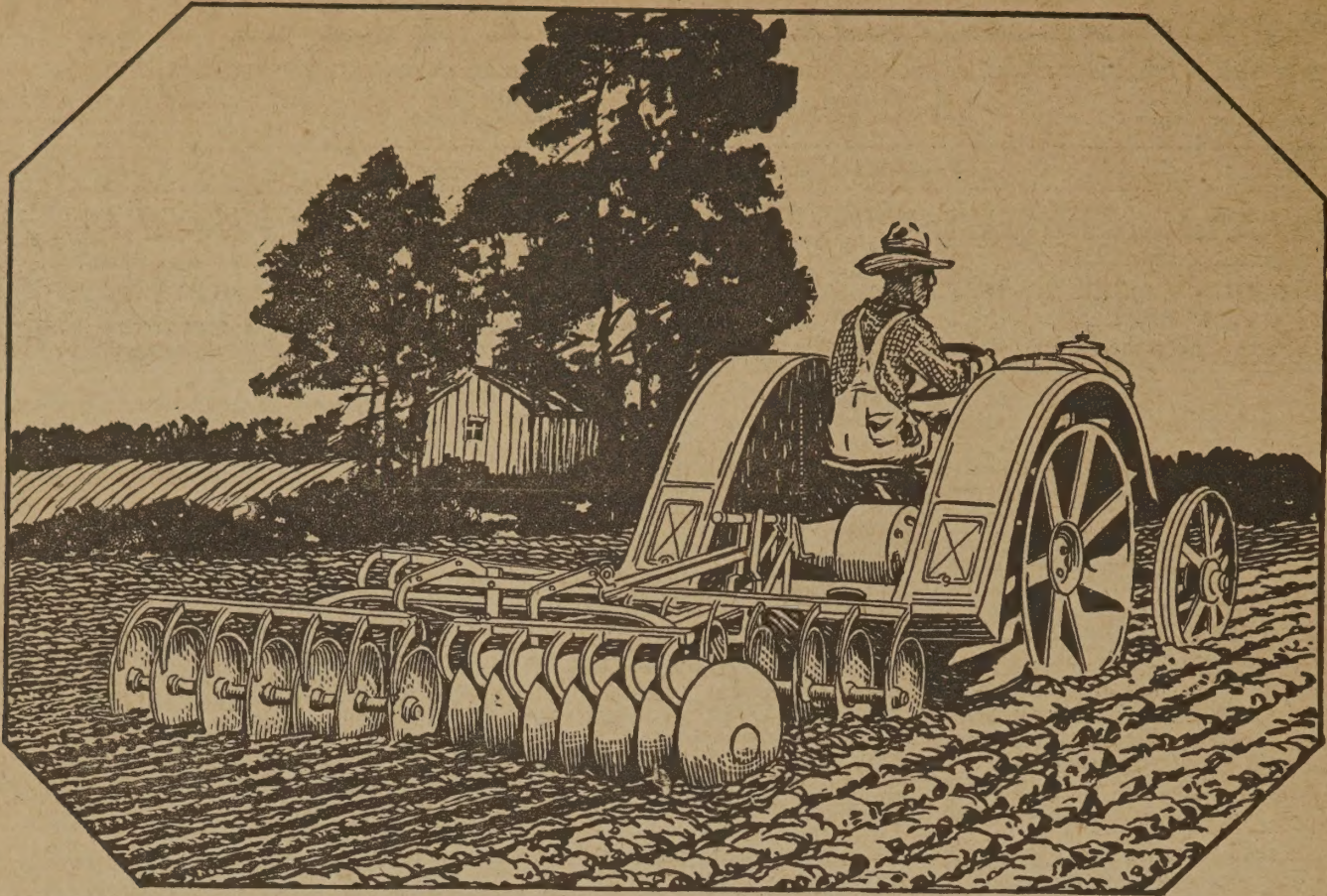
any error is noticed, subscriber will confer a favor by notifying us. In sending renewals always sign your order exactly as the name appears on address label.

How to Remit.—Send money by postal money order, express order, bank draft, or registered letter. Stamps in good condition accepted for small amounts.

Change in Address.—When ordering a change in the address, subscribers should be sure to give their former as well as their present address, otherwise the address cannot be changed. This is a matter of importance both to you and to us.

Advertising Rates.—The advertising rates will be sent upon application. Entered at the Des Moines, Iowa, post office as second-class matter.

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Corn Well Rooted is Half Grown

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495
F. O. B.
DETROIT

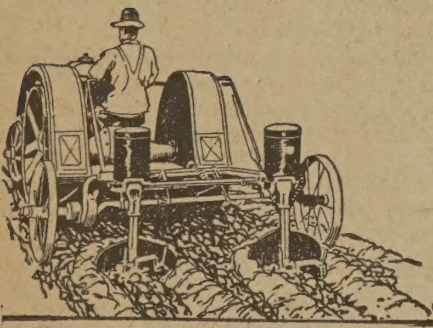
When you use the same care in preparing a well-pulverized seed bed that you do in selecting your seed corn, the young plants get firmly rooted and your crop is half made before the tender shoots break ground.

With a Fordson you can give your corn a good start by putting under it a moisture-conserving bed of earth that will keep the crop sturdy during unfavorable weather.

And the time and labor involved is only a fraction of what it would be with other equipment.

The extra yield from a single crop of Fordson prepared corn land has often paid the entire first cost of the tractor.

When cultivating and harvesting, silo filling and shredding can also be done easier and quicker with ready Fordson power; it is not hard to know why the Fordson is so popular wherever corn is grown.



Ford Motor Company
Detroit, Michigan

See the Nearest Authorized
Ford Dealer

Fordson



Diseases That Reduce Corn Yield

A Chance to Throw Off an Enormous Tax Burden

By KIRK FOX

TWO long rows of corn are too common a sight in the cornbelt to attract much attention. Yet two rows across one of W. S. Hinton's fields in Champaign county, Illinois, last spring meant millions of dollars to corn raisers. They proved that it is possible for any man, by culling his seed corn, to reduce the enormous tax put upon his crop by plant diseases, a tax conservatively estimated by Illinois men at 20 percent of the entire crop.

In nine Iowa counties last spring, this tax amounted to \$250 for every man who planted as much as fifty acres of corn. "If we had used all disease-free utility seed last spring, we would have had 700 more bushels of corn," says Charles W. Ingram of Stark county, Illinois. Disease-free seed in Iowa yielded 8.8 bushels per acre more in 1924 than diseased seed and 4.4 bushels more than the general run of seed taken from the farmers' planter boxes. Tests in Kansas show that better seed selection methods would add twenty-five million bushels to the corn crop of that state. Other states find that a similar condition exists.

Ten years ago no one believed it possible to tell by looking at an ear of corn whether it was diseased. In fact, it was generally supposed that an apparently sound ear was healthy. About that time James R. Holbert was testing seed corn for Eugene D. Funk in Illinois. From among nearly 100,000 ears, fifty were selected representing the best germinating ears of the lot, as indicated by vigor, number of roots, freedom from mold, etc. However, it was not then known that mold in the seed corn tester showed anything important. The only object in testing was to find if an ear would grow. The fifty ears were again tested and twenty-five rejected. The twenty-five ears remaining were then planted beside nearly 1,000 ears tested for viability only.

TO the surprise of the investigators, the twenty-five ears selected for vigor of germination and freedom from infection as well as viability produced a superior yield and quality of crop over that of the ears selected for appearance only. Similar results were obtained the second year but to the disappointment of everyone, the ears that gave such a good account of themselves were by no means the ideal type accepted by commonly recognized standards.

Further trials with diseased and resistant corn made it clear that physical selection coupled with germinator tests would go a long way toward reducing the amount of diseased corn. In other words, it was found that a diseased ear

possessed certain indications of its condition that were reliable guides to its rejection. Kernels of disease-free ears matured on healthy plants have a bright, rich luster as compared with a dull, dry appearance when disease is present. The shank must break clean and show only slight or no discolorations. A tendency of the shank to shred may indicate disease in the ear. Kernels are smoothly indented, large, well-developed and of medium depth. No tendency to starchiness is permitted.

WHILE it is evident then that there are distinct differences in the appearance of nearly disease-free ears, the differences are not confined to a single one such as kernel luster, so it is important to consider them all in selecting seed. Mind you, all this information was not

picked up in one year or two. Altho it was certain that an important discovery had been made, time was necessary in order to test and retest every step in the work and to put the information in such shape that any man could use it. Associated with Holbert were W. L. Burlison, Benjamin Koehler, C. M. Woodworth, George H. Dungan, and many interested farmers and seedsmen.

Last spring C. C. Burns, county agent of Champaign county, Illinois, and the

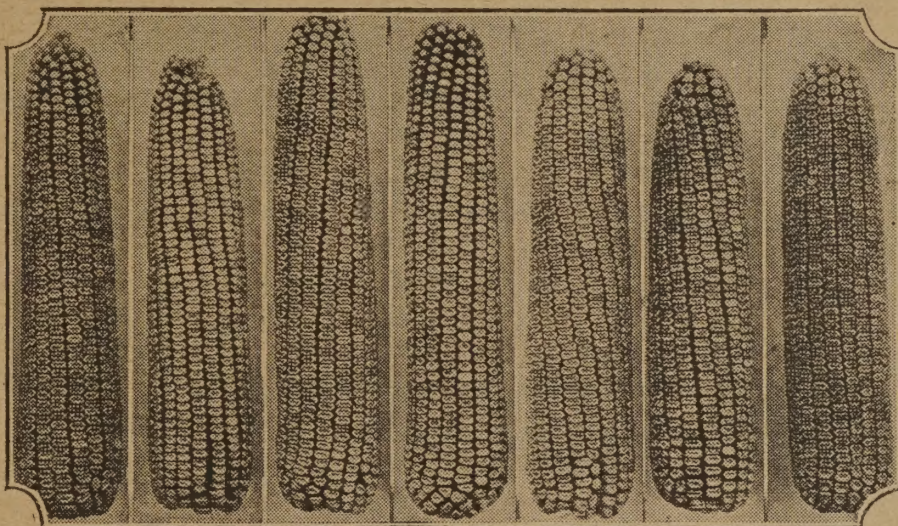


Photo by courtesy University of Illinois

These ears show considerable range in characteristics but from the standpoint of yield, it is unwise to select too closely toward a particular type

weather, gave Holbert's method the trial that should establish it with practical corn raisers everywhere. Twenty-four community meetings or schools in Champaign county, which by the way produces 12,000,000 bushels of corn annually, gave hundreds of farmers an intelligent plan of action to solve their seed corn difficulties for themselves.

The first step was field meetings where the importance of selecting seed from standing stalks was explained. The winter culling schools were the second step which was followed by corn plots in different communities all over the county. The resistant and non-resistant samples were planted in two rows side by side across a field. These rows were planted after at least 10 or 20 rows of ordinary corn had been planted along the side of the field. In most all cases, enough corn of the two kinds was available to plant a row across the field. A fourth step that Burns hadn't figured on was a late, cold, wet spring that tested the growing qualities of the best seed corn.

The results, of which I have already mentioned W. S. Hinton's field, were soon evident. Men who had planted ordinary seed waited in vain for it to come up and if it did, the stand was generally so thin that (Continued on page 52)



"Best in the
Long Run"



This Kent Ram in its third fleece was adjudged champion at recent Fair, Kent, England, and awarded First Prize by Prince Henry.

Apart from the common herd

Like a pedigreed ram in a flock of ordinary sheep, Goodrich Tires stand out from the herd of ordinary tires. Like blooded stock, the line is developed for special characteristics, and special qualities.

The farmer knows what blooded stock means in sheep, cattle, and horses. He knows it means strength of endurance and quality of performance.

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Established 1870
Akron, Ohio

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The Cost of Highway Transportation

What is Economy in Road Construction?

By ALSON SECOR

WE, the people, own approximately 2,886,000 miles of public highways in the United States. We are the stockholders in this vast transportation system. But we, the corporation, do not own the rolling stock. That belongs to the individuals who use the highways.

We, the corporation, spent about one billion dollars for road construction and upkeep in 1923. The bill was no less in 1924. Perhaps greater. It will be equally as large in 1925.

There were 15,092,177 registered cars using the highways in 1923. A million more were bought and used in 1924. Another million more new cars will traverse them in 1925. Besides this there are umsteen million farm horse-drawn vehicles using more or less of the public roads. The farmers own and use—well, nobody knows how many motor vehicles, but they have their share all right, so they are vitally concerned in the cost of transportation over the public highways.

In 1921 the bureau of markets studied the subject and found that, on the basis of the years 1915 to 1919, there was an average annual haul over country roads of twenty-seven tons for each one hundred acres of farm land, figuring only the eleven crops of corn, wheat, oats, barley, rye, rice, flax, cotton, tobacco, potatoes and tame hay.

These alone total 86,560,000 tons a year. Then, there is all the fruit, truck, livestock, dairy products and all the things hauled from the stores to the farm homes. It is a tremendous tonnage that farmers put over the highways by motor and team. Are

farmers interested in good roads? Most assuredly. And I will endeavor to show them what bad roads cost them.

In 1924 the farmers signed a petition two miles long pleading with congress to cut down expenditures and reduce taxes. I wonder how long the petition would be if they all realized the cost of bad roads. Tho a billion dollars is spent each year for road building and upkeep, this is less than five and a half percent of the taxpayer's tax dollar. Sixty percent of this enormous sum was spent by counties and townships, chiefly for temporary road work.

Recent road tests show that ordinary farm wagons with equal loads have a tractive resistance of from 400 to 530 pounds per ton on unimproved dirt roads during spring or wet weather. The same loads on compact gravel roads in the same season or wet weather have a tractive resistance of 112 to 150 pounds per ton. The same power will move four times the load over a good gravel road that can be hauled over the mud road.

In dry weather of summer an unimproved, heavy soil, dirt road gives a resistance pull of 186 to 215 pounds per ton and the compact gravel road 50 to 75 pounds a ton. That is, you can increase the load three times and not increase the power, when hauling on good gravel.

The winners of the 1924 Iowa state fair team pulling contest as indicated by the dynamometer could start a load of 18,980 pounds or about nine and a half tons on a good dirt road, but could start and pull 38,960 pounds or about nineteen and a quarter tons on a paved road. This team, Pat and Barney, were as good as two equally good teams if they had pavement instead of dirt roads to haul on.

At the 1923 Iowa state fair a wagon was loaded with sacked grain. Wagon and load weighed 3.86 tons. It required a tractive pull of 520 pounds to move this load on a dirt or cinder road. This equals 134.7 pounds per ton.

On a brick pavement the tractive pull was 200 pounds for the load, or 51.8 pounds per ton. The tractive pull on a concrete road was 125 pounds, or 32.5 pounds per ton as indicated by the dynamometer under supervision of Professor J. B. Davidson. This again shows that a team can haul easily three times more on a good paved road than on a dirt road in good weather. A team moves very slowly. If, therefore, you can have one team haul three loads to market in the same wagon, you save the expense of two teams or save the time of three extra trips. So much in relation to team work on the highways.

Farmers are using trucks to a large degree now. On good earth roads in dry weather the tractive resistance of a solid tire truck moving at ten miles an hour is 55 pounds per ton. On good gravel roads it is 45 pounds and on paved roads it is 35 pounds per ton. So much for tractive pull.

It will cost a yearly average of 9.5 cents per ton-mile for solid tire trucks moving at ten miles an hour for operating expense over dirt roads as compared with 7.75 cents for best gravel and best paved roads. For pneumatic tired trucks moving at 15 miles an hour the cost on ordinary dirt roads is 9.95 cents as against 7.7 cents on best paved and best gravel roads. In other words, for every mile of travel with every ton of car and load, you pay about two cents more if the haul is made over dirt roads than you would if you had access to best

gravel or paved roads. This is the finding of the Iowa state college in 1924.

But farmers make more trips with their automobiles than with their trucks unless they have daily hauls to a creamery or a milk station. Let us consider what good roads mean to

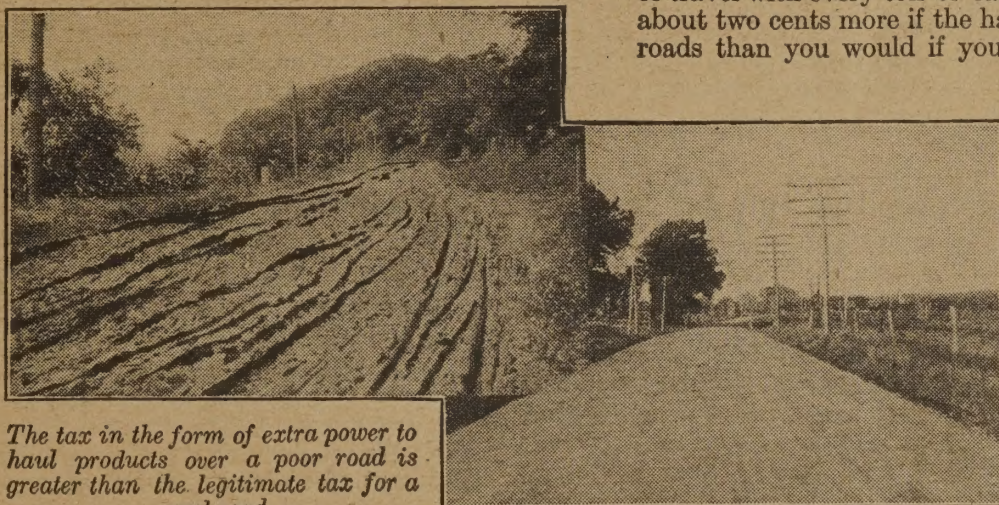
the auto. If you have three persons in an ordinary light touring car, you have about a ton weight. A ton-mile is that ton load traveling one mile. You can estimate your own car in ton-miles on the weight of car and the load it carries, and the distance traveled.

For convenience let us say that gasoline is costing you, tax and all, twenty cents. On a good dirt road it will cost you about 1.4 cents a ton-mile for your light car and three persons. On paved road the cost will be about 0.95 of a cent per mile for gasoline. Put it another way, you will get fourteen ton-miles on a gallon of gas when riding on dirt, 21 ton-miles per gallon on gravel, and 31 ton-miles on concrete. Figuring the expected use of a larger touring car at 4,000 miles a year, a saving of one-fourth of the operating cost can be made if paved roads are traveled instead of dirt roads. That is about \$100 a year saving.

According to Chief Engineer White of the Iowa highway commission there is a saving of about 2.6 cents per ton-mile when driving over paved roads instead of dirt roads. And, when it comes to a rain, or the spring of the year, the difference, of course, is out of comparison. In fact, the dirt road cannot be traveled by auto when the bottom is out by rain or spring thaw. If the railroads charged that much more to carry you in spring or in rain you would not stand for it.

The Iowa state college made investigations in 1917 and 1918 with weighing stations on the highways. The average weight of horse-drawn passenger vehicles was 671 pounds. Of horse-drawn freight vehicles the weight was 1,993 pounds. Passenger automobiles averaged 2,691 pounds and freight trucks averaged 2,720 pounds.

The investigators kept count of the traffic on certain highways with the following results: On the Lincoln highway near Ames the daily average of vehicles was 904. The daily average tonnage was 1,232 tons. (Continued on page 93)



The tax in the form of extra power to haul products over a poor road is greater than the legitimate tax for a good road

EDITORIAL COMMENTS

A NATION LISTENS IN

ONLY two or three years ago amplifiers came into use so that a public speaker could be heard quite well on the outskirts of a large crowd. It was wonderful. On March 4th millions of people listened in on the inaugural ceremonies at Washington by means of radios installed in the schools and public places, as well as in the private homes.

This wonder of the most wonderful age of man has brought a wide-spread nation together. Every word of the president's address was clearly heard and the description of that inaugural was so completely and clearly given by the announcer that the listeners got a first-hand impression of this ceremony. Never before had the people of the United States taken so intimate an interest in a national affair as when the radio made it possible, thru the courtesy of the big corporations and the local radio broadcasters and dealers, for a nation to listen in and hear the president's voice.

If anything can ever compensate for the capital being located at the eastern border of the nation it is the radio that annihilated distances so far as sound is concerned. Coupled with a follow-up of moving pictures of that event and others, all the people will come in closer touch with our seat of government. In no other way could a nation have enjoyed absolutely free the benefits of a trip to Washington without leaving home.

THE NATION'S HEART BEAT

WHAT, in your estimation, is the one thing that quickens the heart beat of the nation? What best claims and holds front page news space in the daily press? Is it war, or politics, or scandal, or economics?

These all have their place in the public interest but they soon stale. We are most interested in the things that grip a human life. Not the possibilities of discovering the exact north pole but the terrible hardships of arctic explorers who are lost or stranded; not the social affairs of a millionaire but the stranded men and an Esquimo woman on Wrangel Island; not the aviators in their race around the world but that one lost plane; not the thousands of tourists who are seeing the world but the few who were held prisoners by Chinese bandits; not the latest gown of a society debutante but the one woman lost in the snows of the Rocky Mountains; not the doings of a scientist searching for new means of conquering disease but the fate of a man caught in an underground cavern.

As the means of spreading news has been enhanced by the radio, so the heart beat of the nation has been quickened in its interest in the calamities of human beings. No sum of money, no human effort is too great to spend on the rescue of any individual in peril. Just as the world loves a lover and exalts a hero, so does its sympathies go out to any human in danger of an unusual death. Rank, position, wealth, have no greater interest than the most humble soul.

We may be seemingly indifferent to the affairs of our neighbors. More and more are we learning to let the other person alone in matters that are none of our business. We may, in fact, fail in our good intentions until some lonely heart has committed suicide, or gone wrong for lack of a kindly word, but never has the heart of the nation or of the world been so easily touched, and so quick in its outpouring of all that may be needed to aid those in distress. We treated our German-Americans most unkindly during the war but we sent aid to the starving German children after the war. We have been vindictive in our treatment of the Japanese, yet we sent shiploads of supplies to the sufferers of the Japanese earthquake.

The daily press may be full of scandal because the morbid mind seems to delight in it, but how quickly Collins came into front page and held it for over two weeks until his death was established. News of his attempted rescue was broadcast every hour by radio, proving that the nation's heart beats strong in sympathy for every human being in distress. The world is getting better.

TON-LITTER ECONOMY

THE significance of unit productivity is being exemplified in the ton-litter contests. The border land days of pioneering are gone. Extensive cheap production has settled down to intensive costly production of crops and livestock. It is no longer a matter of how many acres or head, but how much per acre and head.

No breed can lord it over other breeds in ton-litter contests, so it is not the breed. No feed can claim all the ribbons so it is not a particular feed. This intense unit production of pork is due to productive sows that are good mothers, a watchful and intelligent herdsman who is on the job at and after farrowing time, and to proper feeding following weaning.

The burning of a little lantern oil the nights of farrowing would save many dollars. The little, helpless pig that is chilled before it can take nourishment, that is stepped or laid upon by a restless sow, may seem like a small loss, but one pig lost at farrowing time is a porker lost at marketing time. The sum total of loss on most farms is a terrible tax which would soon pay for proper farrowing houses, or for the midnight care given at the right time. Careless handling resulting in killing in shipment is just claim for damages. Careless handling of brood sows at farrowing time may result in greater loss, yet there is no one to pay the damages.

This same practice results in loss in the fields if a part of the crop is damaged by tramping stock, hunters or others. Some horses step on enough corn in cultivation to pay for a horse that can walk straight. Sometimes it is the jerking or swearing of the driver that results in much trampled corn. Corn lost in cultivation is corn lost at the crib. Bundles of grain left in the field, or run over by wagons, take money out of pocket just as sure as a fire that burns the grain.

The cost of planting and cultivation is a fixed overhead. The cost per bushel depends on the net yield of grain per acre. No manufacturer would consider it of no importance that part of his raw material was ruined, or part of his products wasted. Every possible use is made of materials, and every possible economy is employed in handling them. Failure to stop waste lets a competitor put him out of business.

If the boys and girls learn from the ton-litter contests the importance of quantity and quality production per unit, they have taken an advanced step in agriculture. Parents should see that they apply the same principle to all kinds of production.

SPECULATION VS. GAMBLING

A FAVORITE indoor sport at conventions is damning the speculators, meaning the traders in the grain pits, stock exchanges and other market centers. A great many sincerely believe that it is a sin to speculate; that the speculator robs them of their legitimate profits; that he is a vulture feeding on the wrecks of trading. Just how wrong is it?

The ultimate consumer is the only one who does not speculate. Every time an article changes hands from the first producer to the consumer who does not pass it on, there is speculation. If this is not so then it is gambling. The trader takes a legitimate chance on making a profit on the things he handles or produces. He hopes to buy or produce at such a cost that he can turn the article off to someone at a margin of profit. He may dress it up, change its appearance, add some attraction or service, so that another will want it. But he always takes a chance that competitors may offer a similar article for less money and he lose his sale or his profit. This is legitimate speculation, whether it be a farm, a product of the farm, stocks and bonds, or anything else. To condemn speculation is to condemn your everyday trading.

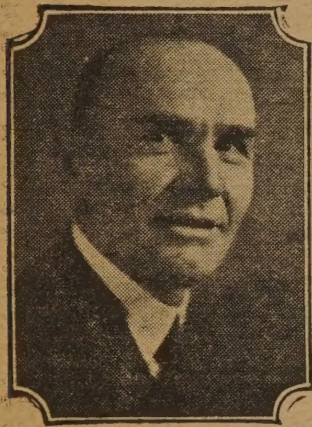
Some transactions are legally recognized as gambling and some are such without such recognition. It is difficult in some cases to draw the line between speculation and gambling. When you play a shell game at a fair, or the roulette

wheel, or poker, or any game of chance, or where the other fellow can and probably does manipulate against you, then you are gambling. When you buy stock in an oil well in Iowa, where oil has never been discovered, then you are gambling. When you buy stock in an oil well in the oil fields, but other men who have never brought a legitimate oil well into flow are in control, you are gambling. When you buy farm land on a boom that has put prices so far above normal that you will be unable to farm it profitably if forced to hold it, then you are gambling.

There is a shading off from speculation into gambling when a grain on the exchange takes violent leaps upward. Unless there is a world situation that warrants the spurt, it is quite evident that somebody is manipulating the price for a clean-up. It will drop like a ton of brick suddenly some time. Traders on a wild exchange are gambling. Consumers are not taking chances then. It is all paper trades. It is a spurt of price like this that producers condemn because when it occurs they usually have nothing to sell. No one curses speculators and gamblers who have put the price up high when he has something to sell! It is his imaginary losses that make him damn the exchanges. It is his actual losses as a gambler that make him want to legislate speculation off the market. Yet it is speculation that produces all markets.

JARDINE, SECRETARY OF AGRICULTURE

SHORTLY before his inauguration, the president named his new secretary of agriculture. Secretary Jardine has our best wishes for success in a difficult political and technical position.



Secretary Jardine

President Coolidge could not have picked a man suitable to all the factions that have striven for leadership in recent years, but we believe he has made a happy selection.

The opinions of Dr. W. M. Jardine are the result of careful study. He has never aligned himself with any faction nor has he been a politician. We are convinced that he will be secretary of agriculture in fact, as well as in name and that agriculture and all other interests will receive fair consideration from him.

Even if there is great diversity of opinion as to the proper legislation to enact for reestablishing agriculture there is unanimous desire upon the part of all factions to move forward. That can best be done under leadership established in the department of agriculture.

The president has named a man who has ridden the range and held responsible positions in relation to the agriculture of the Central West. The best thing to do is to get behind and help him work out the problems that beset the department and the farming interests of the nation. No man can succeed in an atmosphere of criticism.

A DEPARTMENT OF PEACE

IT has been suggested frequently that we have a department of peace with a secretary in the president's cabinet. Not a bad idea. In fact, under a different name, we have a secretary of peace and a department of peace. The secretary and the department of state are to all intents and purposes the organized part of our government to keep the peace with other nations thru diplomacy and treaties. But the department of state cost the sum of \$15,316,665 in 1924 and the war department cost \$252,150,231 plus the cost of the navy department \$294,456,528. We spent to be ready for war the total of \$546,606,759 as against \$15,316,665 for peace. We spent \$35 to be ready to fight for every dollar we spent to make peace. And we claim to be a Christian nation, living in a civilized age! We are betting \$35 that we can lick anybody to one that there will be a peaceful settlement of our international affairs without a fight. So our department of state can hardly be held up as an example of our faith in human nature.

Being hero worshippers we are not yet ready to take from our school histories the glories of war and put in the advantages of peace. Those who are thinking, if not saying, we are yellow if we do not fall down and worship war, have a long list of fears with which to back the perpetual expendi-

ture for our enormous "defense." We come back at them with reference to little Denmark, little Holland, and little Switzerland that survived the world war, in its very midst, without getting into it. Had they strong navies and strong armies they never could have remained neutral.

With these few remarks, as a preacher would say, we call attention to the fact that we have two departments of war, one for land and one for sea, and each of these has an air force. Why not have a department of defense in charge of one secretary? Under one head all the forces of defense should function better than under rival heads with their duplication of cost and effort. If we really want to cut down federal expense there is the place to begin. When it comes to the final analysis the president is commander-in-chief of the army and the navy, so why have the dual or triple department of war, which in this country at least means only a department of defense?

It is time to outlaw war among nations and this could be done if we showed faith in peace by diplomacy in greater proportion to our faith in peace by preparation for war. The Republican party platform "reaffirms its stand for agreement among the nations to prevent war and preserve peace" and the Democratic party platform "pledges all its energies to the outlawing of the whole war system," so it would seem impossible for congress to much longer refuse to take action along this line of public demand and party promises.

PUBLIC BUYING BONDS

A FINANCIAL authority is credited with saying that by March 15th the public will have invested a billion and a half dollars in bonds. The drift is toward safe bonds rather than toward doubtful investments of a more or less speculative nature. The shrewd business man puts his money in safe bonds rather than in those promising big returns. It is the steady horse and not the plunger that pulls the load.

Farmers who have money they do not need may well invest in such bonds as the federal land banks offer which are tax-free and secure. By so doing they create a banking system they alone can use, for every bond sold puts that much money at the command of needy farmers with good security. It is a cooperative enterprise that needs and warrants farmer support. The resources of the federal land banks have passed the billion dollar point, which places this system among the largest and strongest financial organizations in the world.

[OBSTACLES TO ORGANIZATION

THERE appears in this issue an article entitled "Putting a Cooperative Company Across," which was announced to appear in our March issue. This article describes the difficulties met in organizing the Minnesota Potato Growers' Exchange.

Just when our March issue was ready to go to press we received a clipping from a local Minnesota paper which reflected upon some of those who were leaders in forming that organization and decided it was wise to make further investigation before publishing the article.

The experiences of the organizers of the Potato Growers' Exchange are typical of the attempts to put other cooperative marketing organizations across. This exchange has not been in business long enough to demonstrate what it can do along the line of marketing potatoes. That is a story that cannot be told until later. The story in this issue shows some of the things which must be successfully overcome in the organization of a large cooperative marketing company.

LOANS BEING PAID

THE annual report of the War Finance Corporation shows that 70.9 percent of the banks to which the corporation had advanced relief money have liquidated their indebtedness in full and 14.9 percent have repaid part of the loans made to them.

This corporation served as a life-line in a time of great emergency. It provided credit where none of the existing elements of our financial system afforded credit. The intermediate credit banks, which were authorized by congress about two years ago are now supplying, at least in a measure, the need for farm credit that was furnished by the War Finance Corporation. This corporation served as a stabilizing influence when conditions in agriculture were almost chaotic. Director Meyer is to be commended for the manner in which he handled a difficult situation.



Inside News From Our Washington Correspondent

By ALASTAIR MONTGOMERY

PRESIDENT COOLIDGE has just taken the oath of office on the east portico of the Capitol. The Sixty-eighth Congress has expired with a very feeble bleat. The quadrennial parade is marching down Pennsylvania avenue past the reviewing stand in front of the White House. The parade is not as magnificent and spectacular as it was in other years. But Washington is in gala attire. Flags and bunting are everywhere—and the tumult and the shouting will continue until the small hours of the morning when the 1925 Inauguration will pass into history to the last strains of a jazz band at the Charity Ball in the Hotel Mayflower.

But What About the Nation's Business?

CONGRESS expired at noon on March 4th with a jammed calendar—the usual snag and the usual snarl. And practically the entire program of agricultural legislation has gone into the discard. The proposals of the president's conference were entirely lost thru deep-rooted differences among the groups representing agriculture, inside and outside congress.

Thus ended, for the time being, the much-advertised federal board to aid cooperative marketing organizations. A similar fate overtook the measure to liberalize intermediate banks for the discounting of livestock paper. Muscle Shoals has gone over once more and the prospect for cheap fertilizer has gone glimmering. The Truth-in-Fabrics bill was lost in the jam, giving another lease of life to the shoddy interests. The Standard Containers act went the same way. As far as farm legislation is concerned, the result of the session was practically negative.

On the other hand, the Postal Pay Increase bill was passed with a provision which adds \$20,000,000 to the cost of the parcel post.

As against this negative record it should be pointed out that some minor measures favorable to the farmers were enacted. Among these was the continuation of the appropriation for the valuation of the railroads by the Interstate Commerce commission; the passage of a resolution directing the Interstate Commerce commission to work out a schedule for the adjustment of rates on farm produce and the enactment of a bill to increase the appropriation for the experimental work of the United States department of agriculture.

The Underwood Muscle Shoals bill came to grief after the conference of the two houses had reached an agreement and the measure had come back to the senate. Senator Norris of Nebraska, who had fought the bill thruout, raised a point of order which was sustained by Senator Cummins of Iowa, president pro tem of the senate. In order that it would not be possible to take any action on the lease until congress reconvenes, the house adopted a resolution for the appointment by the president of a commission to investigate the whole question and to prepare a report. It is understood that the president will appoint such a commission.

Serious Break Shown in Farm Ranks

NOT since the McNary-Haugen bill was defeated a year ago has there been a measure which exhibited such differences between the farming interests as the legislation sponsored by the president and by the agricultural conference to aid the cooperatives. This legislation was embodied in the Capper-Haugen bill. The house, however, passed the Dickinson bill which was much milder and which the members of the president's conference said would do nothing to

put cooperative marketing on a business basis. The humorous feature of the situation was that the cooperative marketing organizations fought the government proposal to help them. In fact, a month before the president's conference made its report, the national council of cooperative marketing organizations had met in Washington and served notice that they would oppose cooperative legislation. They feared control by a federal board and it was only because of its mildness that the Dickinson bill was acceptable. The major farm organizations such as the National Grange and the American Farm Bureau Federation and the Farmers' Union supported the administration but the cooperative organizations themselves, under the leadership of the National Cooperative Milk Producers' Federation, threw down the gage of battle and for the present, at least, they won. What has really happened is that a wedge has been driven right thru the farm bloc. It has ceased to be a united element. From an economic and agrarian standpoint, this is the most vital development of the session of congress.

The Issues That Confront the President

THE program of the administration, as it stands today, and as disclosed by the president's past utterance, is substantially as follows:

Strict economy. Maintenance of protective tariff rates. Revival of the Mellon plan for tax reduction, including the surtax feature. Agricultural legislation in line with the findings of the agricultural commission. Further legislation to consolidate railroads into larger systems. Modification of the system under which the Railway Labor Board operates in seeking to adjust disputes between the roads and their employees. Promotion of the scheme to build the St. Lawrence-Great Lakes waterway. American adhesion, with reservations, to the World Court and a sympathetic attitude towards any reasonable move to outlaw war.

Indications now are that only unforeseen developments will lead Mr. Coolidge to change his mind that a special session of congress is not necessary.

New Secretary of Agriculture

OUT of the largest field of contenders that ever stood for a cabinet office President Coolidge has selected Dr. William M. Jardine of Kansas to head the United States department of agriculture. The appointment has, on the whole, met with a good reception, altho some elements were somewhat inclined to a candidate less closely affiliated with the views sponsored by Secretary of Commerce Hoover. One of the major reasons that actuated President Coolidge in making the selection was that he found that Dr. Jardine was in agreement with the view that he himself held, namely that the solution of the farm problem lies primarily with the farmers themselves and not in dependence upon federal legislation except such as may enable them to finance and market their crops. The new secretary was one of the most outspoken opponents of the McNary-Haugen bill last year. He was a member of the president's agricultural commission and as such is committed to the vigorous prosecution of the program of legislation recommended by that body.

Following the appointment of a new secretary of agriculture, Chester Morrill, who has had charge of packer control activities, and Assistant Secretary E. D. Ball, who has been in charge of the scientific work of the department, tendered their resignations, which were accepted. Their places have not yet been filled. (Continued on page 94)

How Much Land Do You Lose Each Year?

Millions of Acres Ruined by Washing

By IVAN D. WOOD

ACCORDING to government estimates more than 4,000,000 acres of land in the United States have been ruined to the point of being abandoned and approximately 8,000,000 have been seriously damaged by erosion. For millions of years this erosive action of water has been at

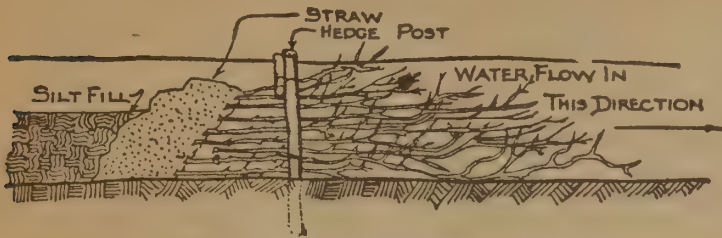


Fig. 1—A brush dam that is properly made

work cutting river valleys and deep ravines, paring down mountains and hills and changing the shore lines of our continent.

Now that we have broken great expanses of prairie and rolling land for farming purposes we begin to notice that some of the heavy rains carry away hundreds of tons of good soil which can never be replaced to the end of time. We have discussed, in a previous article, how some of the larger gullies may be checked by means of the so-called soil-saving dam of earth or concrete. Let us see what some of the successful farmers of the cornbelt are doing to prevent the small ditches from growing into larger ones.

Old settlers of Nebraska and Iowa are very firm in their belief that their land has washed more severely in the last ten or fifteen years than in the previous twenty-five or thirty years and most likely they are right. It is a well-known fact that the virgin prairie soil was rich in organic matter which had accumulated thru centuries when the Middle West was a grazing ground for the buffalo. Twenty-five or thirty years of farming has removed much of this organic or decayed vegetable matter. The soil is therefore less sponge-like and less absorbent, hence washes more easily unless it has been seeded down to alfalfa or sweet clover to bring back the fertility. Torrential rains such as are common in the Middle West are likely to start many small gullies, particularly in the fall, on newly prepared wheat land or in the spring on land prepared for corn.

These little ditches are very annoying even tho they may be only a foot deep and a few hundred feet long. One very successful way to handle this situation is to fill the ditch thru-out its entire length with straw, corn-stalks, cobs, or manure, followed by plowing in the soil from both sides. If the ditch is long and carries considerable water it will probably be necessary to stake down the straw or manure with a series of small stakes which can be cut off with a plow without difficulty. If the ditch has become quite well defined, it will probably wash out again as soon as the straw or manure has rotted. It is therefore advised by men who have spent years in fighting ditches that these small gullies be sown down to some quick growing crop, such as sudan grass, as soon as possible. The fills may later be seeded down to permanent grasses, such as brome grass or timothy, and left seeded down

permanently thereafter. A farmer in Douglas county, Nebraska, has been very successful in stopping all sizes of ditches with small straw and brush dams to hold the fills which are soon seeded down to sudan grass.

It is a common but poor practice to use loose brush and straw piles to stop ditches of considerable size. I have seen load after load of loose brush piled into a ditch only to wash away again, taking with it fences and bridges when the first big rain came. It is usually a waste of a good straw stack to pile it in a ditch, even tho it may stop a considerable pile of dirt for the first few years. Eventually, the water will wash around one end of the stack or cut a hole under it. Better success may be obtained with straw stacks by driving twenty-five or thirty stakes in the bottom of the ditch before the straw is threshed. If the straw is tramped thoroly about the stakes the stack will not be carried away bodily or undermined.

Gullies which have a drainage area of less than 15 or 20 acres and which are from 2 to 8 feet deep can best be filled with a series of brush dams which, if properly constructed, will be found very permanent and successful, if the fall in the bottom of the gully is not too great. It is poor practice in building brush dams to construct one or two large ones placed far apart rather than many small ones placed from 50 to 100 feet apart. Instances have been known where a well-built series of dams have filled a ditch completely in one or two rains.

A system of building brush dams which has met with considerable success consists of setting a row of posts about 16 inches apart across the ditch and piling brush between them with the butt end of the sticks upstream and the brushy end down stream as shown in Figure 1. The brush is tramped solidly in place and piled so that the center of the dam is lower than the sides. This forces the water over the center of the dam and does not permit it to

cut around. The brush is held in position by means of two small, tough poles wired crosswise on the posts as shown at "A," Figure 2. After the dam is finished a part of a load of manure or straw should be thrown on the upstream side to help check the water so that it will drop its load of silt.

Mr. Albert Seimers of Otoe county, Nebraska, used a series of brush dams built after the manner just described to stop further erosion in a ditch 1,600 feet long and from 3 to 5 feet deep. This ditch could not be crossed in any place and divided an alfalfa field into three parts. After trimming the orchard Mr. Seimers found himself in possession of a large amount of worthless brush which he decided to use in placing brush dams every one hundred feet in this ditch which he had attempted to stop many times before with small masonry dams, brush dams, straw dams and various other things.

A second method of building brush dams which has been used with considerable success by a number of farmers in the eastern part of the state of

Nebraska consists of throwing a log across the ditch as shown at (A), Figure 3. The brush is then placed with the butt end down in the bottom of the ditch and the brushy end lying over the post marked (A). A pile of manure or straw is tramped into position as shown at (B) Figure 3. The force of the water and mud (Continued on page 36)

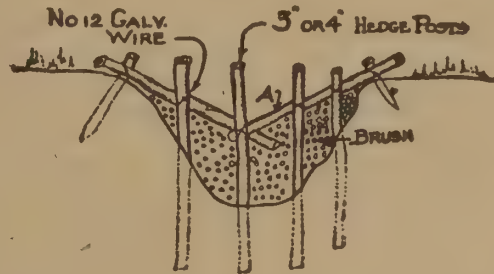


Fig. 2—A view of the dam shown in Fig. 1. Note that the center of the dam is low

Fig. 3—Another method of building a brush dam



Fig. 4—Rows of posts set across a gully, with rocks placed as shown; check further erosion

Putting a Cooperative Company Across

Establishing the Minnesota Potato Growers' Exchange

By ALSON SECOR

THERE are doubtless thousands of members of cooperative associations and millions of others who do not realize the tremendous task of putting over a cooperative organization of farmers, be it large or small in its scope. Only those who have been heart and soul, time, energy and money in this thankless task have any conception of the difficulties of getting a class of people who for thousands of years have been individualists to adopt a new policy, that of all for one and one for all.

There are several ways in which I might discuss cooperative marketing, pointing out its many failures and few outstanding successes, but I believe I can serve agriculture best by telling just one phase of it, the task of organizing a cooperative marketing association, using the Minnesota Potato Growers' Exchange as typical, perhaps, of all such major attempts, and I hope in the relating of this story to help the cause of cooperation.

Must Be Handled by Localities

THERE are perishable commodities that need immediate marketing. There are non-perishable commodities that can be kept over from year to year. There are semi-perishable commodities that need immediate storage, but which can be distributed for a considerable part of a year. Potatoes are such.

All the potatoes of the United States could not be pooled to advantage because the southern states which grow the early spuds would not consent to sacrifice their high prices in a pool with the enormous general late crops of the northern states. So it is best for each potato locality to manage its own marketing. Maine did that, but the potato section of Maine is but a little patch in size when compared with the potato section of Minnesota. In Maine, Aroostook county is given over wholly to potatoes. In Minnesota, with the exception of a few counties, potatoes are but a part of diversified farming. So it was not so easy to organize the Minnesota growers into a cooperative marketing association as it was the Maine growers.

Minnesota is a leading state in cooperation of various kinds. It has been bred in the blood of this generation, so you would naturally think that organizing the Minnesota Potato Growers' Exchange would be easy. But it wasn't. I'll say it wasn't! You see, Minnesota had a small potato exchange which was not functioning very well for the growers. That was a sore spot to overcome. Then, there were some recent failures of so-called political farmer movements. These and others created suspicion and lack of enthusiasm. They might have bitten readily on a new gold brick scheme but on a solid, wholesome morsel like a real marketing association—well, enthusiasm was hard to arouse.

Enthusiasm is the thing that makes the wheels of the world go round. It is the vital force back of every political campaign, civic drive, religious revival or economic endeavor. When cooperation gets in the blood, absorbs all the faculties like a religion, it has to succeed. The leaders, fired with cooperative zeal, become regular fanatics on the subject. Nothing can stop them. And the strange thing is that these evangelists of cooperation are usually not dirt farmers, and because they are not, the dirt farmers always wonder what ax they have to grind.

Cooperation should come from the urgent need and the insistent demand of the producers. It should grow from



These three men displace thirty-five hand bookkeepers. Efficiency in operation is an essential which many cooperatives fail to realize.

the bottom up. It seldom does because the producers are too busy, have little organization experience, and anyway, their own people would suspicion and distrust those who attempted anything, so it may as well come from the top and connect as best it can with the soil.

That is why Sapiro was brought into the state to preach the gospel of cooperation. But he is best at arousing enthusiasm among

business men. In this case, at least, he shot over the heads of the producers. Then there was Dan Wallace, a farm paper editor, S. E. Elliott, a newspaper man, S. G. Rubinow, of Maine, J. A. Monson, a hardware merchant and chairman of the organization committee, Walter Oby, a banker, Earl Baker, a jeweler, and several other outstanding men who followed up Sapiro with a speaking campaign to arouse enthusiasm for organization. Mr. Rubinow was put in charge of the campaign, made a commanding general without official rank and often without funds. But Rubinow had organized successfully the Maine potato growers and was called from that organization where he was manager to give Minnesota potato growers a successful cooperative marketing exchange. He knew potatoes and he knew men.

A Big Financial Problem

BUT a campaign needs funds, and lots of them, so they took from one of the big banks a man who knew how to get cash instead of promises. Banker Fellows was able, because of his connections, to get \$10,000 from the business men of the Twin Cities to finance the campaign. By March 1, 1924, the field men had signed up 12,447 growers at \$5 a membership. Of these, 3,167 paid cash, which was the only real money invested by the growers in the enterprise. The \$10,000 loaned by Twin City business men was spent in about three months, and a lot more in addition, for it cost about \$52,000 for organization work. Rubinow went four months without a cent of salary. There had to be an office force to tabulate and account for the memberships. The unorganized organization was always broke.

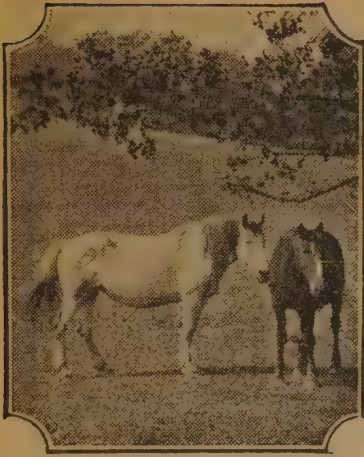
They were mailing out to growers great quantities of circular literature, blank contracts, etc., and one time they had a batch of 10,000 to mail and a girl was sent to the state house with a full envelope to weigh a sample to see if it would pass for two cents postage. It just came within the two-cent rate, so they were mailed under two-cent postage. After a day or two the postoffice called up the cooperatives and asked what they wanted done with a pile of letters. "We've got 'em piled all over the place and we need the room." "Why, what's the matter?" the committee inquired. "This stuff won't go for two cents," was the reply. So Elliott went down there and sure enough, on the postoffice scales they came in the four-cent class. It would take \$128 more to pay the postage. The way it happened was that the weight of the paper on which the printing was done had been increased after the girl had weighed a sample. "Bein' how" the postoffice does not do a credit business, they had to dig up \$128 cash. Cash was scarce!

It sure was, and the girls wanted their pay one time when the supply was otherwise exhausted. Of course, they had to have girls. No girls, no campaign literature, no bookkeeping, no nothing. So Elliott went to a Greek restaurant friend of his, for the different members of the campaign committee had been bled white time and time again when shortage stared them in (Continued on page 102)

Some Remedies for Those Tired Pastures

Methods That Reduce the Cost of Livestock

By KIRK FOX



Economical livestock production depends upon good pastures

MY bluegrass pastures paid me a return of \$12 an acre," says George Merrill, a steer feeder of Guthrie county, Iowa. "My grass land makes me more money than my corn land. It has not been broken up for twenty-five years and is getting better all the time," according to E. C. Baker, another Iowa steer feeder whose farm is in Crawford county. Good pastures decreased the amount of grain required to produce pork at least fifteen percent at the Missouri experiment station. Results obtained at the various experiment stations show that, with balanced rations and full feeding, the average rate of gain is increased more than one-third by pasture. Sheep men, dairy farmers and horse men in different localities all pay similar high tribute to pastures, particularly bluegrass and white clover mixed with various grasses.

Because grass and profitable livestock production are so closely related, the recent findings of the Ohio state experiment station that permanent pastures in that state have declined in thirty years to less than one-half of their former carrying capacity, is serious. For, in varying degrees, other cornbelt states face a similar condition. "One of the ways in which many farmers could increase their profits from livestock is by reducing the pasture feed cost," stated C. W. Crickman after making a survey of 231 Iowa farms.

In a study of 262 Wisconsin farms to find out why some farms pay, the state experiment station found that many did not pay because they depended too much upon grass. The pastures, as a result, were abused and failed to do as well as they should. If, then, the cost of producing livestock products is to be kept where a margin of profit is possible on the average farm, methods of handling permanent pastures must change.

Better pasture management, as worked out by practical Middle West farmers, varies in methods according to conditions. Where the stand of grass is sufficiently dense to shut out competition from the weeds, proper control of grazing is usually all that is necessary.

MUCH depends upon the care the pasture gets from April 1st to November 1st," said F. D. Farrell, dean of agriculture at the Kansas state agricultural college, in discussing pasture management in that state. "Extremely early grazing checks the growth of young grass plants and lowers their vitality so that they are easily crowded out by weeds," he continued. "In most cases pastures would be better if the grazing did not begin until two weeks later than it usually does. Let the grass get at least two inches high." E. C. Baker, mentioned earlier, gets steers on grass April 1st and figures on five months pasture.

Overgrazing is another cause of serious damage to native pastures. In eastern Kansas from 20 to 25 head of cattle per 100 acres is enough, depending of course upon the age and kind of animals and the condition of the pasture. Rotation grazing wherever possible greatly improves a pasture. A temporary division fence thru the pasture makes it possible to rest part of the plants which can be grazed later without injury and with greater returns from the land.

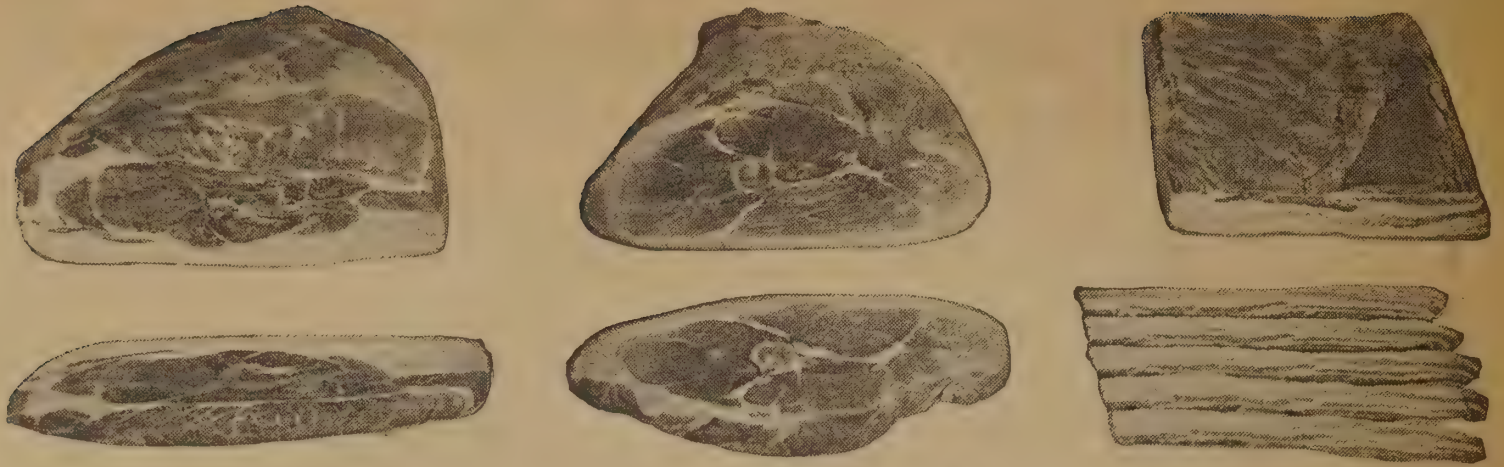
Heavy grazing during a hot, dry spell kills many plants and leaves room for weeds to gain a foothold when the fall rains come. If part of the livestock can be shifted to sudan or other cultivated crop for a while, the pasture will pay well later for the rest. When weeds do make their appearance, an occasional mowing will prevent their growth and keep the grass of good quality. "My pasture is getting better each year, as I try not to pasture it too closely," says E. H. Mallory of Franklin county, Iowa. The grass is chiefly red and white clover, timothy and bluegrass. Mallory figures that a good pasture is half the battle in summer feeding steers.

PASTURES choked with weeds or so sod-bound that they give little response to better grazing methods, must be torn up, reseeded, limed and fertilized. Any one of these treatments will give gratifying results in most cases, so that one has the choice of going as far as his time and circumstances permit. A seven-acre pasture of mixed grasses established in Pemiscot county, Missouri, in 1915 has attracted considerable local attention. It was established according to recommendations from the Missouri college of agriculture. The field was thoroly plowed and sowed to oats and a mixture of 5 or 6 pounds of orchard grass, 4 or 5 pounds of timothy, 6 or 8 pounds of redbud, 6 or 8 pounds of bluegrass and 2 pounds of alsike clover. The oats were cut in the milky stage.

IN case it is not advisable to plow up pastures, they can often be spurred to greatly increased yields by drilling in a mixture of three pounds common biennial white sweet clover, three pounds alsike and three pounds medium red clover per acre. This mixture is proving very good in Iowa. The seed is drilled into the bluegrass in the spring before the grass starts. It may be done with a grain drill even before the ground is entirely thawed out. In case a drill is not available, open up the sod with a disc set fairly straight. The seed is then sowed broadcast and the pasture smoothed with a weighted, spike-toothed harrow set slanting.

In Ohio the use of grass seed in rejuvenating wornout pastures is considered a waste of money. A clover cycle of at least three years is necessary to put the soil in condition to support tame grasses there. In order to get clover, lime, manure and phosphorus are usually necessary. Almost every county in eastern Ohio has pastures in which the effects of lime and acid phosphate have been observed. Conclusions based on these observations lead soil men to recommend applying 400 pounds of acid phosphate to the soil as it stands. Limestone should also be applied in amounts sufficient to neutralize soil acidity. Improvement was hastened in some pastures by using a disc or spring-tooth harrow to loosen the sod, especially if broomsedge covers the soil.

In Cuyahoga county, Ohio, treated sections of an almost worthless pasture are now growing fine stands of white clover. The cost of the lime and (Continued on page 34)



Preparing the Summer Meat Supply

Suggestions Based on Wide Experience

By M. D. HELSER

THE farmer of all men is entitled to a goodly supply of wholesome, nutritious meats. A variety of meats should be on hand at all times. Nothing appeals more thoroly to the appetite of a tired, hungry man than the savory odors of a rich, baked ham or a brown, juicy roast of beef.

First-class cured meats can be prepared on the farm by following a few very simple directions. Too many farmers today are like the one who said, "Well, my grandfather could cure the best ham that I ever tasted but I never seemed to have any luck." There is the secret: it isn't luck at all. It's a little time and patience mixed with some good common sense and ability to follow simple directions. It isn't a hit-and-miss proposition at all.

The Preparation of Cured Pork. Select good, thrifty pigs from six to twelve months old carrying a medium amount of fat and weighing from 200 to 250 pounds. Don't make a "catch all" out of your pork barrel. Let the other fellow eat the old fat sows and heavy stags. Never kill a boar for meat. Too many times we kill the fat old sows and then wonder why the sausage is rubbery or the bacon strong or the ham tough.

Select a butcher day while the temperature is below freezing if possible. Keep the pigs off feed for about twenty-four hours before killing. Be sure to get a good bleed. If you are not pretty sure of your ability to stick hogs, you had better stick them alive rather than shoot or stun them before sticking. If a hog bleeds to death, you are pretty sure of a good bleed, while if it is shot or stunned, it will die whether it bleeds or not.

Do not have the water for scalding too hot. One hundred and fifty degrees is a scalding temperature. In cold weather a half-barrel of water taken from a boiling kettle and a three-gallon bucket of cold water will usually be about right by the time the hog gets into the water. Keep the hog moving around in the barrel. This insures an even scald. Clean the hog as rapidly as possible and remove the entrails.

THE intestines can be cleaned for sausage casings. The stomach and bladder also make splendid casings, or ordinary muslin bags about two inches wide and eighteen inches long also make very good casings.

The carcass should be allowed to cool thoroly but not to freeze. After chilling remove the head and trim off all the meat either for head cheese or sausage and lard. Cut the ham off from one to two inches in front of the aitch-bone, depending on the size of the hog, and on a line at right angles to the hind shank. Trim the tail and flank off as neatly as possible and cut the shank off just above the hock joint. Cut the shoulder off across the third rib and square with the middle piece. The neck bones can be trimmed out and the shoulder butt cut off.

This will make a small shoulder that will cure quite evenly and can be finished with a mild cure. If the shoulder

butt is not cut off, the shoulder will have to stay in the cure so long in order to cure the center, especially around the shoulder joint, that the outside will be entirely too salty.

The middle piece should then be cut into back and belly by cutting from just under the point of the back bone at the shoulder end, to just below the tenderloin muscle at the ham end. Remove the spare ribs, being careful to take out all of the gristly rib ends from the bacon. Square up the end of the bacon and trim off the seeds along the edge.

THE hams, shoulders and bacon can all be placed in the same cure. There are two main cures, the dry cure and the brine cure. Sugar can be added to either or left out just as you like. Sugar improves the flavor and softens the muscle. Saltpeter can also be added to either cure. It improves the color and aids in improving the keeping qualities of the meat. Either cure will give splendid results. Be sure that the meat curing vessels are clean and the water pure. In the brine cure use 2 pounds of salt to one gallon of water. For each 100 pounds of hams, shoulders

and bacon use 12 pounds of salt, 6 gallons of water, 3 pounds of sugar or 4 pounds of molasses and 3 ounces of saltpeter. Mix the dry ingredients together and rub each piece before packing, then weight down the meat and dissolve the remainder of the dry mixture in six gallons of water and pour this over the meat. It is always safest to boil the water before making the

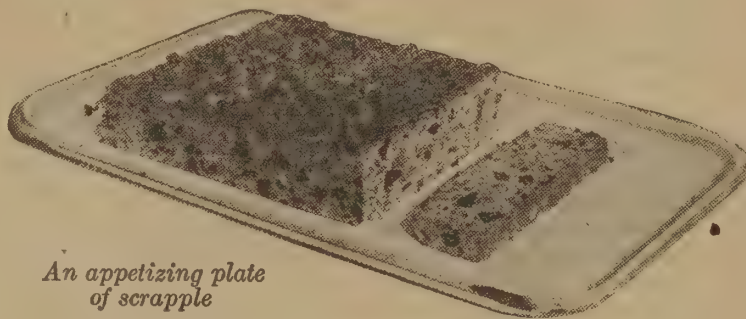
brine. In one week the meat should be repacked and the bacon taken out. Usually one day per pound per piece is enough for the smaller pieces of bacon. A ten-pound slab of bacon should cure enough in one week. Repack the meat again twenty-one days from date of original cure. The shoulders can be taken out at this time. The hams should be allowed to remain in the brine about three days per pound per piece.

A 12-pound ham should be in the brine about thirty-six days. Hams weighing over fifteen pounds cure best when enough of the fat is taken off to bring the weight down to fifteen pounds. They can then remain in the cure about six weeks. The hams, bacon and shoulders should all be thoroly washed in about three or four different waters so that the meat will be in the water about ten minutes. This will take the strong, salty taste out of the outside of the meat.

After the meat has been allowed to drip for at least twenty-four hours, smoke it with a slow smoke from hickory wood if possible. Any hard wood or corncob smoke does very well, however. Smoke until the meat shows a dark straw color. Then wrap in heavy paper and hang in the smokehouse until used.

In the dry cure for 100 pounds of meat use 8 pounds of salt, 2 pounds of sugar or 3 pounds of molasses and 2 ounces of saltpeter. Mix the ingredients and rub each piece before packing. About half the curing mixture should be left to rub on the hams and shoulders in

(Continued on page 66)



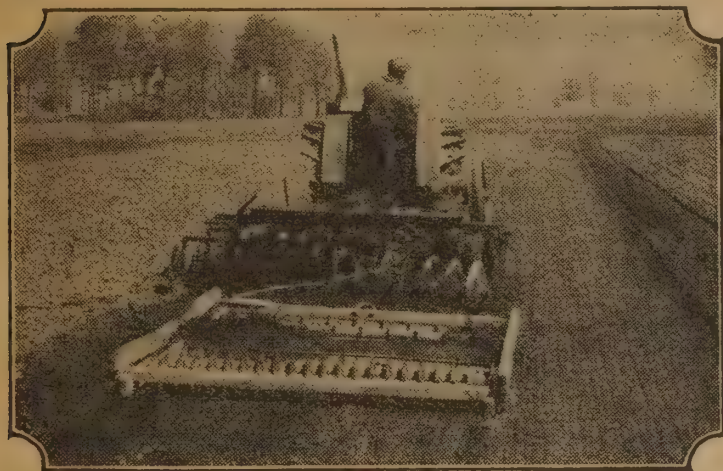
An appetizing plate of scrapple

Is Your Farm Under- or Over-Equipped

Some Points That Affect Production Costs

By A. H. SNYDER

IT is not always easy to decide when it is an economy to add a new implement or machine to the equipment, or replace an old one by a new one. There can be no question, however, about the proper basis upon which to make the decision. If it will make a good rate of interest upon the investment, it is not an expense but an economy. Unless a



Good equipment makes a good farm better

reasonable rate of interest can be realized from its service, an implement is not profitable, regardless of how low the price may be at which it can be purchased. Even if the first cost seems high, if an implement will return a fair rate of interest on the investment and even a small profit, it is an economy.

Unquestionably the thing to aim at is the right amount and the right kind of equipment to most efficiently carry on the work on the particular farm you are operating. Competition in the production of farm products is exceedingly keen and is destined to become more so as the years go by. Modern developments in transportation, communication, etc., have put American farmers as a class in direct competition with the producers of the world, and this, together with other factors, has increased the keenness of competition between individuals. The development of implements and machines whereby one man can produce as much as several men could produce without such time- and labor-saving devices has enabled American farmers to hold their own with the cheap and plentiful labor in foreign countries. Unless the increased cost of labor can be offset in large measure by increased efficiency, thru the use of improved equipment or otherwise, farmers of this country will be at a disadvantage.

THE cost of production is always a vital factor in determining the success with which any individual or group can compete with others who are producing the same commodity. Those who produce at the lowest cost can sell at the lowest price and still realize a profit. This is a simple fact, and those who realize it and are acting accordingly are profiting thereby.

During recent years the inequality between prices of farm products and other commodities has so absorbed the attention that the importance of keeping production costs at the lowest possible point has been overlooked or neglected by far too many of those who have been suffering from the unfavorable farming conditions. Every fair-minded person recognizes

that prices of farm products have been too low in proportion to prices of things that farmers must buy. Too much emphasis cannot be placed upon the importance of establishing as quickly and permanently as possible an equality for agriculture and too great effort cannot be put forth to that end. But, in the meantime, bear in mind that those who produce their products at the lowest cost will realize the greatest profits, regardless of whether prices are high or low. A reduction of a few cents a bushel in producing a crop of grain affects the profit on that crop exactly the same as an increase of the same number of cents a bushel in the price at which the grain is sold.

THE real purpose of all implements and machinery is to reduce the cost of production. Consequently, the question at issue in deciding whether it will pay to place a given implement on your farm is whether, by the use of that particular implement on your particular farm, you can reduce the cost of producing one or more crops to a sufficient extent to more than pay for the service of the implement. Do not make the mistake of thinking of the cost in the terms of acre cost or of the implement in the terms of its purchase price. It is entirely possible that the acre cost of producing a crop may be increased and the cost per bushel be decreased. For example, a corn planter or drill which does not do good work may easily be responsible for sufficient loss of crop to more than pay for the service of an implement that would prevent the loss. Only a few days ago a farmer friend said: "In spite of all I could do, my corn planter gave an uneven drop last year and I have just ordered a new planter. I figure that I probably lost enough in the yield of corn on my eighty acres thru uneven planting to more than pay the cost per year of a new planter."

It would, no doubt, have cost this man less per acre to use his old planter this year, rather than make the investment in a new one, but if he gets even a half-bushel more per acre from his eighty acres, it will not only pay several times the annual cost, but more than half of the first cost. The income from the additional yield will more than offset the additional cost per acre.

The same principle holds true as regards a machine which breaks down in planting time or harvest and causes loss by not getting the crop in on time or permitting it to be damaged. The saving in cost may be more than counterbalanced by the loss in making it.

The cost of service obtained from a machine and the value of that service is the real consideration. As a general

rule, the greater the number of years an implement can be made to serve, the less the cost of service from that implement, provided it is not used to the point where the annual cost for repairs and the loss thru inefficient service is greater than the annual cost of service from a new machine. Good care not only means more service and consequently service at less cost, but also means better

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The real cost of good work is less than the cost of poor work



The purpose of machinery is to reduce production costs

How a Painter Refinishes Old Floors

Some Points From His Experience

By J. E. DAVIS

MY experience with floors dates back to the days when as a barefoot youngster I often stubbed the ends off my great toes on the old-fashioned wrought nails that worked loose and protruded above the general level of my mother's kitchen. Since those boyhood experiences, I have worked on many kinds of floors while following the trade of painter and decorator. But I have always had a soft spot in my heart for the old ones, and have found a keen satisfaction in fixing them up. I am here passing on some of the things I have learned about floors to those who may find them of value.

The directions which follow are not intended for good, new floors, which in most cases should be stained, filled and varnished, or finished in the natural color as suits the taste. It is my aim to supply a long-felt want to those who have old floors which they desire to improve as cheaply as possible.

Since rugs have been in common use, good-looking borders around them have been the requirement. On old floors, this has meant a plain, painted border or the use of imitation filler, neither of which are entirely satisfactory.

The method of finishing here explained is called "stippling," and is a form of graining, but it is done by the use of a brush instead of rolls or other graining device, and unlike other graining, is so simple that a novice can get a very good-looking piece of work. It may be noted here that this form of finishing is equally suitable for refinishing woodwork or even furniture.

Briefly outlined the process is as follows: first, a groundwork of a special kind of flat yellow paint called "painters' ground color"; second, the application of the graining fluid and the stippling; and, third, varnishing. These terms may sound difficult, but the process is really very simple; and if you will carefully read the following directions and do the work exactly as outlined, I am sure you will be greatly pleased with the result.

Let us suppose that you use a rug in your sitting room and that the floor border needs doing over. The first thing to do is to see that the floor to be finished is perfectly clean. Remove all old carpet tacks and, if the finish is rough, give it a good rubbing with coarse sand-paper. The next step is to give the floor two good coats of ground color. This is simply a yellow paint and should be applied as any other paint, being particular not to get it on base-boards or other woodwork. The covering capacity of ground color is about the same as other paint; that is, a quart will cover about seventy-five square feet, two coats.

In case the floor you are to finish has never had any paint or other varnish, a priming coat should precede the two coats already mentioned. This priming coat may be any kind of paint—but it must contain sufficient oil to satisfy the absorption of the wood and turpentine to aid penetration and carry the oil into the pores. The ground color may be thinned for priming. Never thin ground color on last two coats.

IF there are unsightly cracks in your floor, they may be filled after the first coat of paint is dry. You can buy crack and crevice filler or you can make it yourself by the following formula: Use common cooking cornstarch, and mix up a stiff putty by adding equal parts of linseed oil, turpentine and Japan dryer. Force the filler into the cracks with a putty knife or strong kitchen knife, smoothing off even with the surface. If the cracks in the floor are not bad, it is usually better not to try to fill them at all, as any filler

will in time shrink and work out leaving an unsightly place in the floor. If you do use the filler, let it become perfectly hard before applying the last coat of paint.

When the last coat of ground color is dry, the floor is ready to be stippled. Stippling fluid can be purchased at the store or you can make it. Simply mix good cider vinegar with an equal amount of clear water, and you have a good stippling fluid. I have used it myself for many years and have always had good results. Stippling fluid must be colored. Raw sienna and raw umber (powder form) stirred into the mixture will give it the color. No definite rule can be given as to the amount of each color to be used as it depends on the shade you wish to make the finished floor.

The only way to get your color right is to paint a few small pieces of board when you paint the floor, and try on these samples till you have the shade you desire. Let each sample dry and spread a little varnish on it, as that is the only way to know just how the color will appear when on

the finished floor. As the stippling dries quickly, this experimenting need not take long. It should be remembered that the raw sienna alone would give a light reddish-yellow finish, while the raw umber alone would produce a brown shade, the density of either shade depending on the amount of color used. In my own practice I have usually mixed the two colors about half and half, the resulting shade being about the same as golden oak. Do not make the mistake of trying to make a thick liquid like paint, as the coloring pigments are not used for that purpose at all, and when ready to use, the fluid should not be much thicker than before the colors were added.

When you have the stippling fluid colored to suit, the next step is to apply it to the

floor. For this part of the work you will need two perfectly clean brushes—one to put on the fluid and the other to do the stippling. A brush that has ever been used in paint is not suitable for this work, as no matter how clean you may think you have them, there will be some oil work out that will spoil the work. A cheap, flat brush does very well for applying the stippling fluid. Regular painters have a special stippling brush for putting on the pattern, but if you do not have one of these you can use a wide, flat brush or a whisk broom. Very satisfactory work can be done with either.

In stippling, two things must be borne constantly in mind: first, that the stippling fluid will be apt to "set" rapidly, for which reason only a yard or two should be worked at a time, and when once started, a floor must be completed before leaving, as it is not possible to join on to the work when dry without a bad-looking lap. The second thing to remember is that the coloring in the fluid will rapidly settle to the bottom unless constantly agitated. This would make the floor color continually lighter as you proceed. You must stir it each time you dip your brush, as you will thereby obtain an even color thruout. In applying the fluid, use as little as possible to get the yellow surface covered. Pay no attention to the brush marks as they will not show when the stippling is done, but make your aim to get the color on as evenly as possible. Leave no very wet or "sloppy" places.

When you have put the color on a yard or so of surface, you should stipple that much before coloring more. Take the whisk broom or whatever brush you have chosen for a stippler, and starting at the end of the colored part, rapidly pat the floor while slowly moving the brush away from you. The stippler should be held as nearly flat to the floor as possible, and enough motion given

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"I have always had a soft spot in my heart for old floors"



The Marckel herd is not large in numbers, but is mighty in production

Longview Methods on Longview Farm

How an Ohio Farmer Succeeds on Eighty Acres

By I. J. MATHEWS

WHEN W. A. Marckel of Ohio named his Paulding county farm "Longview," he no doubt had in mind its location where, situated on level land, he has a long view in all directions except down. But the observer who studies Marckel's methods is likely to interpret the name to mean that the owner himself is the person who has the long view.

On this farm, one sees many and myriad marks of the farmer who takes the long view of permanent farming as contrasted with he who flits into farming when flitting is good and then tumbles over his fellows in a stampede to get out whenever lower ground sinks into the distance.

Paulding county is in that great stretch of level loam that characterizes northwestern Ohio. A section by the Creator richly endowed with fertility which laid inert and intact until the big ditches took off the surplus water. Generally these fortunate farmers have not come to see the permanency value of a livestock program. Even now, here and there, one can see ash heaps where straw stacks have been fired, altho the commoner disposition of straw is to bale it up and haul it away. Sixteen and twenty percent means little in this territory. It might mean interest, dividends, sugar content of beets, in fact everything else but fertilizer or acid phosphate.

Agriculture in this region is largely a collecting process, consisting to some extent of crystallizing soil elements into plants and then selling the crystals in the form of sugar in beets. But the need of the country, as we view it, is for farmers who see the beginning of the end before the end comes. It is much easier to quench the fire when it first starts than it is to rebuild after the flames have had their way.

And so, ranging around for stories that might have something of inspiration and example to thousands of farmers under less auspicious soil conditions, I found the county agent's office. And while I was there, the county shipping manager dropped in. Then came farm bureau membership solicitors and others. They named over successful farmers of various types who had succeeded with this or that.

"Now out of all these," I queried, "would you mind helping me to find the man who runs several projects well, some man who makes a good return without a whole section, some person whose forte is management, a fellow who can make things fit together."

The county agent raked his pencil thru his hair, the shipping manager stroked his pompadour. "There's Will Marckel," said the shipping manager. "Guess he isn't even on your list. But he is a likely candidate for your qualifications. Not a big farm, 80 acres I guess, Jersey cows but not a big herd, big type Polands to consume the skim milk and surplus corn, an alfalfa and sweet clover grower from 'way back and a man who has taken the proceeds from the farm

and made the home comfortable and modern. Has lights and water and all the other trimmings. But"—here he paused—"he lives clear over on the county line, fourteen miles from here; perhaps you wouldn't want to go that far."

What's fourteen miles? Nothing, when it comes to dropping behind the scenes on a farm where ideas that may be worth millions to our readers are uncovered. To lift the lid and view the works on such a farm as this is worth far more than a lot of stuff that can be found oftentimes right on the edge of town.

This farmer and his farm exceeded my expectations save that Marckel is one of those modest men who says nothing about his own accomplishments but at once proceeds to interview the interviewers. Yet this habit of pumping ideas out of every notion peddler that comes along gives one a strong cue as to why Marckel is unusual. He is one of those farmers who never "arrives," eternally on the lookout for something better, a good example for many of us to follow.

When you drive up, the place impresses you as being well

kept. There is the nicely mowed lawn in front of the house and the barn. The buildings are freshly painted; they glisten in the rays of the sun. The house has an enclosed porch. The garden shows all the signs of intensive cultivation.

Like all men who know their stuff, when the introduction wears off and they get their minds focused on their own interests rather than on your appearance or big nose, the story of a life's work and the fruition of various



A shapely barn and a neat, well-kept yard in front

ambitions unfolds like a delicate film.

Marckel is out of the patch stage with alfalfa growing. No longer must he fondle the young plants for he knows where and how they will best grow. We used to call oats a nurse crop for a young seeding but now we call the oats the big brother crop. The oats do not nurse the alfalfa any, both feed at a common source, but the oats do shade the ground so the alfalfa has a better chance. This is Marckel's version, you understand.

He has not failed to grow clover during any one of the nineteen years he has been on this farm. At first, he started sowing a pound or so of alfalfa or sweet clover seed with the June clover but now the soil of the entire farm has become so well inoculated that he can throw the June clover overboard. He sows sweet clover and alfalfa right in with his oats with as much assurance as many of us sow timothy.

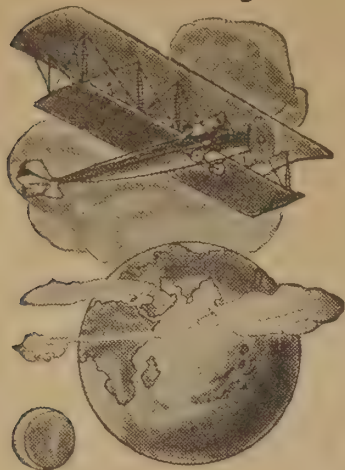
When you mention timothy, he makes a wry face, gives a nearby thistle a kick and says that he hasn't sown any timothy on his farm for a long time and then answers your question by asking another, "What's timothy good for?" Then, in a few minutes, he answers this by the process of elimination by saying that it is no good for cows, hogs, sheep and very little good for horses. So he has timothy completely counted out—for his farm at least. (Cont. on p. 80)

Birdseye Views of Distant Countries

Rhodesia—The Land of Cecil Rhodes

By JAMES T. NICHOLS

Nichols, the traveler, has crossed the Atlantic fifteen times and made two trips around the world. He has rambled thru more than thirty foreign lands and is still going. His stories are based on actual experience



TAKE a map of Texas with its bordering states on the east and north, Louisiana, Arkansas and Oklahoma, place them all on Rhodesia and you will have more than two thousand square miles left. This country is a great empire in the heart of southern Africa. As the name indicates, Rhodesia stands as

an everlasting monument to Cecil Rhodes. When Rhodes first reached Africa in 1870, this vast territory was in the hands of war-like tribes. True, David Livingstone had blazed a white man's trail thru the land and, while his influence was great, yet the people were far from what one would call a civilized people. Only a little more than a half century ago the people were savages and the negro tribes were at war with each other continually.

There are people living today who knew Lobengula, the last king of the Matabeles, one of the most powerful tribes. This man was a regular tyrant. He sat upon a box throne and decreed life or death to his subjects. Near by was a crocodile pool. Subjects who offended him were tied hand and foot and thrown into this pool.

From all reports, Lobengula was a terrible looking man. Weighing three hundred pounds, more than six feet high, with bulging, bloodshot eyes, thick lips, he was the personification of cruelty and blood-thirstiness, according to Stanley. Frank Carpenter tells how he punished a native warrior who had snatched a gourd of beer from the hands of a woman who was taking it to Lobengula.

When the unhappy warrior was taken before the tyrant, the king said, "That nose of yours is guilty. It smelt the beer. Let it be cut off." This was done and the king continued, "Those eyes of yours saw the beer. They are guilty. They should be put out." The warrior's eyes were then gouged out and the tyrant continued, "You have heard with your ears that it is not allowed to drink the king's beer. They are no longer of any use to you and they shall be cut off." This was done and the warrior was then beaten almost to death and dragged out to die.

Bulawayo was the capital of this warrior king. He was supposed to own all the country round about. His father's name means "Pathway of Blood," and was most appropriate. He conquered the tribes until he had great hoards of well-organized warriors. His son, Lobengula, succeeded him and continued in his father's footsteps until he had vast herds of cattle, controlled the rude mines of the country, and became the recognized ruler over these warlike tribes.

Lobengula was a witch doctor and claimed the power to make it rain. These witch doctors were very important in the minds of African tribes. They claimed divine appointment and that they were authorized to use magic. They had a regular course of training, fell into trances and communicated with spirits. They were able to handle poisonous serpents, were sleight-of-hand performers, and were able to make the natives believe they had miraculous powers.

It was largely thru Rhodes' efforts that the British South Africa Company was organized and it became, and is today perhaps, the largest land and development syndicate in the world. Its capital today is nearly fifty million dollars. It has built great railroads, founded towns, opened up lands, and developed great mining interests. Representatives of this company dealt directly with Lobengula and secured great concessions from him and this company did for Africa what the East India Company did for India.

Queen Victoria gave this company a charter and unlimited power. It was this company, with Rhodes as the directing brain, that secured the country called Zambesi, now Northern and Southern Rhodesia. Only a couple of years ago this country voted to change from charter rule to a British protectorate.

In handing over the administration of this territory, the British South Africa Company surrendered its claim to all public works and buildings in Southern Rhodesia for eighteen million dollars, says Carpenter, but it retained several million acres of

land, together with its commercial, mineral, and railroad rights.

There are millions of acres of the very finest farm lands in Rhodesia. It can be developed in a wonderful way and will produce abundantly. Corn, they call it maize, is the chief agricultural product, altho tobacco, wheat, beans, and various other grains and fruits grow in abundance.

Farming is often done on a large scale in Rhodesia. The settlers take large tracts, from five hundred to three thousand acres, and in many cases use tractors and modern machinery. Most of the country is a great rolling prairie and well adapted to farming and stock raising.

A hundred years before the white man reached Rhodesia the natives raised many cattle. The climate is such that no sheds are necessary. One thing that made it hard for the white man to subdue the natives was the breaking out of rinderpest among the cattle. As this disease was unknown before the coming of the white man, the negro was suspicious that he was responsible for it.

In order to blot out this disease among the cattle, the white man's government established a sort of a "No Man's Land" and shot all cattle within this area. The natives could not understand such a procedure and, when their cattle were killed they felt that it was an outrage perpetrated by the white men. Then, when many of them died by eating infected meat, they held the white men responsible for this, too.

In the letter last month Bulwayo was mentioned as one of the chief points on the "Cape to Cairo" railway. This is not only the capital of Southern Rhodesia but is the chief city in the country. Altho containing less than ten thousand people it is a modern city with a hotel that covers half an acre of ground, with public library, seven churches, several exclusive clubs, three Masonic organizations, two theaters, three large banking institutions, a chamber of commerce and several newspapers.

About nineteen miles from Bulwayo is located what used to be the great Rhodes' estate which contained multiplied thousands of acres. Rhodes allowed the natives to have free use of his idle lands and there are today many small villages with gardens in these parts. The native houses are mostly mud huts with thatched roofs. In the center of the floor is a hole which is in reality their cook stove. While these things are the rudest kind, yet you speed over the country of this estate in a high-powered automobile on smooth highways.

Part of this great estate is now a government experiment farm. On this big estate is a wonderful fertile valley thirty miles long. Here Rhodes built a dam and made a reservoir that would hold a million gallons of water. When Rhodes died, he left

an eighteen thousand acre corner of this farm for a great park and garden with miles of road lined with avenues of trees. In this park is a zoological garden in which is found every kind of animals that live in Africa. Altho worth almost uncounted millions Rhodes lived the simple life for months at a time on this estate. Visitors had to travel the nineteen miles to see him. On the estate he had an ostrich farm. Some of the birds were wild, but he did not allow any shooting on any part of the estate.

Isaac Marcossion tells of a visit he made to the tomb of Cecil Rhodes upon the mountain on this estate. Rhodes would spend hours at a time on this elevation and called it "The View of the World." As you near the spot where his body lies, you see a great stone slab upon which is a brass plate bearing these words: "Here Lie the Remains of John Cecil Rhodes," and Marcossion says, "In his will he directed that the site be chosen and even wrote the simple inscription for the cover."

Many believe that King Solomon's mines were in Rhodesia. Shortly before his death Frank Carpenter visited these regions and called attention to many interesting facts and traditions. The Arabs used to control a large part of the East African coast and from them the Egyptians secured much of their gold, says Carpenter. He further testifies that Rhodesia was the land of Ophir, from which Solomon and

(Continued on page 53)

Gum-Dipped BALLOONS

Increase the Value of Your Car

Now you can make your car work this spring—regardless of road and weather! Just equip with Firestone full-size balloons. Thousands of busy farmers now ride on these big low-pressure tires—without worry about the road ahead. They are built flexible and strong by Firestone Gum-Dipping and will give you a new idea of comfort—smooth the ruts—absorb vibration and make driving trouble-free.

What's more, you'll find them the most economical tires you ever used.

Let a Firestone dealer make the changeover for you. Prices are reasonable, and he will give you liberal allowance on your old tires.

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The Standard of Low Pressure Cords

Answers to Questions General Interest

ASKS ABOUT DWARF TREES

I wish to ask you about dwarf fruit trees. Would you advise planting them? We can plant a great many more trees to the acre using dwarfs than we could standard, and also it is claimed they begin bearing earlier. Why wouldn't they be a good thing for a commercial orchard?—H. O. W., Ohio.

For home planting, and when there is only a small area available, and you wish as many varieties as possible in a home orchard, there is good reason for planting dwarf apple trees. They take up less space and a greater variety of fruit can be grown in the small orchard than where standard trees are grown. They are also attractive about the home. However, when it comes to commercial orchards there is a decided question as to the advisability of planting dwarf trees, and we would not recommend the practice. They are likely to sucker pretty badly, and they will not be any more productive than the standard tree. In some sections they are subject to winter killing according to experimental evidence. The dwarf trees generally come into bearing a little earlier than the standard apples, but even this fact will not make them materially more preferable than the standard trees for commercial planting.

MINERALS FOR DAIRY COWS

I wish you would suggest a good mineral supplement to feed to dairy cows. I am planting alfalfa, but of course I have no legumes at the present time. I am feeding a large proportion of bran in my grain feeds.—G. C. D., Minn.

A very good mixture to supply both calcium and phosphorous in readily available form is equal parts steamed bonemeal and salt. Inasmuch as you are feeding considerable bran perhaps it would be just as well for you to feed a mixture of equal parts of finely ground limestone or wood ashes, steamed bonemeal, and salt. A mineral mixture of this character may be fed in a quantity up to three or four percent of the grain ration by weight.

HOW TO PLANT A TREE

We wish you would give us some specific directions for planting of both fruit and shade trees. Tell us how large to dig the holes, how to prune the trees, both top and roots, and whether to water or not.—C. R. C., Ohio.

In the planting of both fruit and shade trees the most important factor is packing the soil firmly about the roots. This is to prevent rapid loss of moisture. Before setting, of course the roots of the trees should be carefully pruned. It is best to make the cut in an upward slanting direction so that the cut surface is down when the tree is set. Prune off all broken roots and bruised roots. Dig the hole large enough that the roots may be placed in position without being bent up or crumpled. Hold the tree in position in such a way that it will be set an inch and one-half to two inches deeper than it stood in the nursery row. Work the soil about the roots with the hands after a few shovelfuls of earth have been thrown in on them. As more dirt is added, pack it firmly about the roots and finally tramp the soil so thoroly that no air spaces are left about the roots. If the ground is very dry, it is well to add a pail of water and then throw loose earth in to a depth of two or three inches to prevent baking of the soil. When the ground is full of moisture, it is unnecessary to water. Immediately trim back the top of the tree. We would suggest that a one-year-old

Signed inquiries will be promptly answered by mail if a two-cent stamp is enclosed. Address, "Subscribers' Information Bureau," Successful Farming, Des Moines, Iowa.

apple or pear whip be cut back to a height of about two to three feet. Cut back older trees to such points that the leader is maintained, and perhaps one or two, and in some cases three well distributed laterals are left. These should be headed back to within about six inches of the leader. In planting shade trees these also should be pruned back pretty heavily. As they will likely grow up considerably taller than the tree is when planted before the permanent branches are left, they can be pruned back to a whip.

AGE OF BROOD SOWS

I have been keeping only gilts to produce my market pigs, and have not kept any of my sows any considerable length of time. Of course, I have two or three brood sows that I use for breeding, but not for the production of market pigs. Do you believe that it would be a good idea to keep my sows longer, or what is the experience of hog raisers on that point?—P. M. O., Ind.

Some successful hog raisers make it a practice to keep their best brood sows a little longer than they do the general run of their herd. A good brood sow will increase in size of litter up to about three years of age, and then there is a tendency for her to go back. We think it is a very good idea to keep a good sow, and there is no question in our minds but what it would be well for most hog raisers to keep their very best sows at least until they have raised four litters and in some cases more.

SCREEN DRAIN OUTLETS

We are having considerable trouble with our drain. First, we had the drain outlet covered with a coarse mesh of hardware cloth. This clogged up pretty badly so we removed it after cleaning it two or three times. Then I had to dig up several rods of tile as it clogged up and I found a dead groundhog in the tile line. What kind of a system would you suggest to protect the outlet against this, and which will not clog up?—A. E. O., Iowa.

The outlet for a tile line should always be screened. A very satisfactory screen may be constructed of fine mesh poultry netting, but it is always advisable to make a screen removable in order to permit the ready cleaning away of refuse behind it. Another very good form of screen may be constructed as a grating of slender iron bars which may be stapled to two-by-fours at a proper distance apart. This grating, when completed, will look a lot like the grating used in many ovens as a shelf. The bars should ordinarily be not farther than one inch apart. Such an outfit hung over the outlet is very easy to remove and clean. The trouble of cleaning any screen placed over the outlet is much less than that of digging up a length of tile when it becomes clogged for one reason or another because it was not screened.

WANTS ENGINE-OIL EMULSION

Would you please give us directions for making the engine-oil emulsion recommended by the U. S. Department of Agriculture?—F. V. T., Nebr.

The formula you ask for is as follows: Paraffine lubricating oil one gallon, potash fish oil soap one pound, soft water one-half gallon. Place these ingredients

in a vessel and bring to a vigorous boil over a fire. While still hot pass the solution thru a force pump two or three times or more under not less than sixty pounds pressure. You cannot obtain an emulsion without the use of a pump and good pressure. Do not attempt to make it up by simply stirring with a paddle. After thoroly emulsifying the solution, it should keep indefinitely provided it is not permitted to freeze. Freezing causes the emulsion to break down and liberate free oil which rises to the surface. Never use an emulsion showing free oil as it may result in an injury to the trees. If it is necessary to use hard water, or if the tank is contaminated with a small amount of lime sulphur or lime, make up a fresh batch of $\frac{1}{4}$ - $\frac{1}{4}$ -50 bordeaux mixture and mix it with the emulsion. This will prevent the breaking down of the emulsion and the consequent rising of free oil to the surface. We would advise the addition of the bordeaux stabilizer to every tank of emulsion, just as a matter of precaution.

DAIRY RATION DEPENDS ON ROUGHAGE

I would like to know about rations for cows. How is 300 pounds corn and cob-meal, 150 pounds ground oats and 100 pounds bran all mixed for a cow feed? My cows are Jerseys and Guernseys.—L. L., Iowa.

Your ration will be satisfactory as a dairy feed fed at the rate of one pound to each three or three and one-half pounds of milk produced by Jerseys and Guernseys, provided the proper roughage is fed along with the grain. A roughage to be fed with a grain ration such as that might well consist of about twenty-five pounds per head daily of good corn silage and ten pounds of good bright alfalfa. If clover must be fed in place of alfalfa, probably it would be well to add about fifty to seventy-five pounds of linseed oilmeal to the grain ration, and if a legume hay is not available it will be necessary to add a hundred pounds of bran and a hundred pounds of linseed oilmeal to the ration, in all probability.

CONCRETE MIX FOR POSTS

We are going to make some concrete posts and we would like to know the proper mixture, and what is the best thing to use for reinforcing. We will use a manufactured steel mold.—E. L. C., Kans.

One-fourth inch round smooth black iron or steel rod makes an excellent reinforcement. These may be bought straight, and cut to the required length. That is, a seven foot length for a seven-foot post. Hooks are then made on the ends of these rods with a bending device which usually comes with the molds. These reinforcing rods should be placed one in each corner of the mold, and from one-half to three-fourths inch from the outside. As for the mixture a 1:2:3 mix will be found excellent, that is, one part cement, two parts sand, and three parts gravel. Count as sand all that material which will pass a screen of one-fourth inch mesh, and gravel that which will remain on it. However, do not use gravel larger than about one-half to three-fourths inch on account of the reinforcing. Screen all the gravel thru a one-half or three-fourths inch screen. We would much rather use the sand and gravel measured separately than a bank run or pit gravel. However, if you do use pit gravel, mix it 1:3 cement and gravel.



Tune in on education!

Abraham Lincoln walked forty-four miles in a day to get a book—studied by the dim light of the fire—struggled against gigantic obstacles for the education that helped to make him great.

On the Air!

There are college courses, lectures from public platforms, political speeches, government lectures, travel talks, music and talks on music—learning from books and from the living world today.

For the Farmer

there are special programs from the great agricultural colleges and the Government bureaus, giving him the highest authority of the day on everything to do with farming and farm marketing.

For his Wife

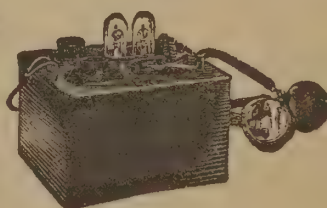
there are all these—and authoritative talks on cooking, household decoration and management, and the care of children—all by experts.

And on the farm these days, where there's a Radiola, there's as much music, entertainment and fun as there is in the heart of cities.

For the farmer's sons today, there are more schools—books-a-plenty—and radio! In every corner of the country, there's education to be had, just for the tuning in. And who knows but that the great man of tomorrow will tell us, not how he studied by the dim flicker of firelight, but how he listened in on the world when work was done—with a Radiola.

Radiola III-a, with four tubes, gets big distance on the loudspeaker. It is notable for tone quality—and ease of tuning. With four Radiotrons WD-11, a pair of headphones and a Radiola Loudspeaker, it is one of the best values in radio (illustrated above) \$83

Radiola III gets near stations on a loudspeaker and distance on the headphones. It is a receiver of finest quality well within reach of every farm home. With two Radiotrons WD-11 and a pair of headphones (entirely complete except dry batteries and antenna) \$35



These Radiolas operate entirely on dry batteries.

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YARLING TESTS HIS SEED CORN

"ASK the average farmer if he would walk 25 miles for a dollar," says Ray E. Miller, farm advisor of Adams county, Illinois, "and he would turn the proposition down in scorn; but, as a matter of fact, when a farmer's corn yield is 30 bushels per acre, he has to travel about 25 miles for each bushel of corn grown. It is estimated that in the process of preparation, planting, cultivation and harvesting of the corn crop a man walks or rides 750 miles for each acre. One has to walk just as far whether or not the yield is 20 bushels or 60 bushels per acre. In the case of the 60-bushel yield, however, the mileage per bushel of corn is reduced to about 12½ miles instead of 25."

Now figure how far it would be necessary to walk to earn a dollar when the corn yields 118.38 bushels per acre instead of 30 bushels. George J. Yarling, Shelby county, Indiana, the man who won highest honors in the Indiana five-acre corn club last year, made this record. The variety was Reid's yellow dent and it was tested by the rag doll method for germination and disease. Yarling tested because he knows it is necessary and not merely because he wanted to take all precautions for the contest field. Last spring he ran out of tested seed and was obliged to plant twenty acres without testing the seed. The yield was lowered at least fifteen bushels per acre below that in fields grown from tested seed.

"The thirty-acre field from which the five-acre plot was selected was in bluegrass and clover sod the previous year and was plowed in the fall about eight inches deep," says Yarling. "The ground laid open during the winter months which killed the cut worms and other injurious insects, that might have done injury to the young corn during the early growing stages. The field was tile drained by my grandfather about fifty years ago and the tiles are still in excellent condition."

"The field was harrowed early in April and disced three times at various intervals with a small leveler on behind the disc. The corn was planted May 15th, drilling the rows 3 feet and 4 inches apart and spacing the corn 17 inches in the row. We used 75 pounds per acre of complete fertilizer ½-13-1 mixture, drilling it in the row with a regular fertilizer attachment on the corn planter."

"The corn came up slowly due to unfavorable weather conditions but soon developed into a fine, uniform stand. The season was so wet that the corn was five inches high before we could get an opportunity to cultivate it. Our usual method of going over the field with a cultipacker immediately after planting could not be carried out due to the wet weather. As soon as we could get into the field, we went over the corn with a two-row cultivator, plowing very shallow the first time over so that we would not injure the small corn plants."

Uses Two-Row Cultivator

"The second plowing is our most particular one. We turn the soil fairly deep and aim to kill all the weeds and grass. With the two-row cultivator we can get over the entire field quickly as soon as the ground is dry enough to work. The third plowing was rather shallow as the corn was clean and we did not wish to disturb the roots. Our main object was to form a dust mulch to hold the moisture. This was the last cultivation that the corn received."

"The entire field of thirty acres from which the five-acre plot was selected made an average yield of 85 bushels per acre, and the five-acre plot averaged 118.38 bushels per acre, and in addition produced 12

tons of pumpkins which were sold to a local canning factory at \$6 per ton.

"We gathered about 250 bushels of good seed corn from the five acres. This corn was gathered rather early in the fall and has been testing out better than 95 percent. About the first of October we went thru the plot and pulled all the shucks down so that the ears were exposed and would dry rapidly. I believe this is one of the very best methods of drying corn which is to be gathered for seed. Then we went thru selecting the seed ears which was an easy task because the shucks being pulled down permitted us to see all the ears. The entire field was husked early and the seed ears thrown into a separate section of the wagon bed as we husked them."

"A good variety of tested seed corn, together with productive soil, properly drained and with a small amount of com-



George Yarling and a sample of his corn

mercial fertilizer to stimulate early, uniform growth and then giving the corn proper and frequent cultivations, I believe, are the main factors which contributed to my success in the five-acre corn club contest this past year."

AN ABANDONED SCHOOL HOUSE

What use is being made of the old school house that was abandoned in your community after the new and modern school building was put up? In most communities, the old school house is no longer an asset to the public that paid for it but has become a rendezvous for bats and other nocturnal varmints.

Not so, however, in the old school house in Fredericksburg, a little hamlet in Washington county, Indiana. New paint was put on, the partitions were torn out, a stage put into one end, and a sheet tacked to the wall. As such, it still remains a community asset, educating and developing adults as well as youths. Home talent plays and entertainments are put on here and occasionally the county agent puts on a stereopticon show.

CARE OF FARM POWER BELTS

In order to deliver the most power and give the longest service, farm power belts must be kept pliable and in good condition. Heat, cold, friction and strain all hasten the day when a belt can no longer stand the strain.

I. P. Blauser of the Illinois college of agriculture recommends neatsfoot oil for leather belts that have become dry and hard. They should first be thoroughly cleaned. Water and mineral oils soon injure leather belts. The smooth or hair side should always run next to the pulley because the flesh side has more give to it.

Canvas belts may be cleaned with soap and water. A coating of red elastic paint or a good grade of linseed oil paint will greatly increase their period of usefulness. They must be kept clean and receive rather frequent applications of good belt dressing prepared by a reliable manufacturer. Rosin, cinders, ashes or dirt should never be used to prevent slipping. When

the edges of a canvas belt are allowed to rub, the belt soon goes to pieces.

Rubber belts are not so likely to be injured by moisture as other types but they need frequent cleaning. They give their best service and last longest if no belt dressing of any kind is used. Run them with the vulcanized seam always away from the pulley.

PROFITABLE ROTATIONS

What is crop rotation? Merely a methodical cycle of crops so arranged as to fit the livestock to the crops and make the best use of the soil fertility. Almost any methodical sequence of crops is better than hit and miss. A plan that provides for not too much plowing and not too much cultivation, and avoids a three months' feast of work, then a nine months' work famine, and increases the fertility of the farm, kills two birds instead of one.

The more one can work alfalfa, clover, soybeans, and sweet clover into the rotation, the greater is the yield of all crops.

The Indiana station has been weighing every crop in various common crop rotations. The beneficent effect of various legumes is the sensation of this work. Generally, those rotations which contain legumes the most years were the most profitable.

A six-year rotation of corn, corn, wheat, alfalfa three years was the most profitable. Considering the last three crops out of nine grown following this rotation, the corn was increased 11.2 bushels per acre, the wheat 7 bushels per acre, while the average yearly increase was \$8.89. Note that half of the time a deep rooted legume is growing.

The next most valuable rotation was corn, soybeans, wheat, and clover. Here again, half of the rotation was devoted to legumes. This rotation produced yearly crop increases worth \$6.40 and increased the yield of corn 8.8 bushels and wheat 5.4 bushels, comparing the last three years with the first six.

Corn, wheat, and alfalfa (one year) was next best with corn increased 8.8 bushels and wheat 3.6 bushels and yearly increases worth \$5.69.

Corn, corn, soybeans, wheat, clover was next with an average yearly crop increase of \$5.34.

The results on the first year rotation of corn, wheat, and sweet clover upset the dope bucket because they do not coincide with the very common notion that sweet clover is a valuable rotation crop. Comparing the last three years with the first six, the sweet clover increased the corn but 6.1 bushels while the wheat yield was reduced 1.2 bushels which makes an average crop increase of but \$1.69.

The poorest of all rotations was the corn, wheat, clover, and timothy rotation. Here is a legume growing but a fourth of the time and the value of the crop increase was but 21 cents a year.

So much for sowing clover and timothy, getting a 50-50 mixture the first hay crop and pure timothy the second year.—I. J. M., Ind.

HE LEARNED TO GROW CLOVER

E. E. Tribble, Black Hawk county, Iowa, has no more light stands of red clover. A few years ago he did, but he tried inoculation on the seed. The legume grows profusely on all his land after that inexpensive treatment. The first year he tried inoculating red clover he got twenty-three loads of hay from four acres. The next year the yield of corn was large on that land.

Tribble seeds clover and timothy with oats one year. The next season he takes off two crops of clover and then plows for corn. The timothy seldom gains much headway in the clover. He feeds the hay to his Jersey cows, and finds that without it the protein supplement of their ration must be increased considerably to maintain production.—W. J. H., Iowa.

Chart of Recommendations

(Abbreviated Edition)

THE correct grades of Gargoyle Mobiloil for engine lubrication of both passenger cars and motor trucks are specified in the Chart below.

E means Gargoyle Mobiloil "E"

How to Arc. means Gargoyle Mobiloil Arctic

Read the A means Gargoyle Mobiloil "A"

Chart: B means Gargoyle Mobiloil "B"

BB means Gargoyle Mobiloil "BB"

Where different grades are recommended for summer and winter use, the winter recommendation should be followed during the entire period when freezing temperatures are experienced.

The Chart of Recommendations is compiled by the Vacuum Oil Company's Board of Automotive Engineers, and represents our professional advice on correct automobile lubrication.

NAMES OF AUTOMOBILES AND MOTOR TRUCKS	1924		1923		1922		1921		1920	
	Summer	Winter	Summer	Winter	Summer	Winter	Summer	Winter	Summer	Winter
Amer. LaFrance (Mod. 19)	A	A	A	A	B	A	B	A	B	A
All Other Models	A	A	A	A	A	A	A	A	A	A
American Six	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Anderson	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Apperson (6 cyl.)	A	A	A	A	A	A	A	A	A	A
(8 cyl.)	A	A	A	A	A	A	A	A	A	A
Atlas	A	A	A	A	A	A	A	A	A	A
Auburn (Mod. 6-61)	A	A	A	A	A	A	A	A	A	A
All Other Models	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Barley Six	Arc.	A	A	A	A	A	A	A	A	A
Bethlehem	A	A	A	A	A	A	A	A	A	A
Buick	A	A	A	A	A	A	A	A	A	A
Cadillac	A	A	A	A	A	A	A	A	A	A
Chalmers	A	A	A	A	A	A	A	A	A	A
Chandler	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Chevrolet (Mod. F & T)	A	A	A	A	A	A	A	A	A	A
All Other Models	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Cleveland	A	A	A	A	A	A	A	A	A	A
Cole	A	A	A	A	A	A	A	A	A	A
Colbia (Det.) (Con't Eng.)	A	A	A	A	A	A	A	A	A	A
All Other Models	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Commerce	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Cunningham	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	A	A
Dodge Bros.	A	A	A	A	A	A	A	A	A	A
Dorris (6 cyl.)	A	A	A	A	A	A	A	A	A	A
All Other Models	A	A	A	A	A	A	A	A	A	A
Dort	A	A	A	A	A	A	A	A	A	A
Durant Four	Arc.	A	A	A	A	A	A	A	A	A
Elkar (4 cyl.)	A	A	A	A	A	A	A	A	A	A
(6 cyl.)	A	A	A	A	A	A	A	A	A	A
Elgin Six	A	A	A	A	A	A	A	A	A	A
Fagol Safety Coach	B	A	A	A	A	A	A	A	A	A
(1½ ton)	A	A	A	A	A	A	A	A	A	A
(2½ ton)	A	A	A	A	A	A	A	A	A	A
All Other Models	A	A	A	A	A	A	A	A	A	A
Federal Knight (¾ ton)	B	A	A	A	A	A	A	A	A	A
(Model X-2)	A	A	A	A	A	A	A	A	A	A
All Other Models	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Plant	E	A	E	A	E	A	E	A	E	A
Ford	E	A	E	A	E	A	E	A	E	A
Four Wheel Drive (F.W.D.)	A	A	A	A	A	A	A	A	A	A
Franklin	BB	BB	BB	BB	BB	BB	BB	BB	BB	BB
Gardner	A	A	A	A	A	A	A	A	A	A
Hamon Six	Arc.	A	A	A	A	A	A	A	A	A
Haynes (6 cyl.)	A	A	A	A	A	A	A	A	A	A
(12 cyl.)	A	A	A	A	A	A	A	A	A	A
H. C. S.	A	A	A	A	A	A	A	A	A	A
Hudson Super Six	A	A	A	A	A	A	A	A	A	A
Thymobile	A	A	A	A	A	A	A	A	A	A
Indiana (1 ton)	A	A	A	A	A	A	A	A	A	A
(1½ ton)	A	A	A	A	A	A	A	A	A	A
All Other Models	A	A	A	A	A	A	A	A	A	A
Jewett	A	A	A	A	A	A	A	A	A	A
Jordan	Arc.	A	A	A	A	A	A	A	A	A
Kelly-Springfield	A	A	A	A	A	A	A	A	A	A
Kline	Arc.	A	A	A	A	A	A	A	A	A
LaFayette	A	A	A	A	A	A	A	A	A	A
Lexington (Con't Eng.)	A	A	A	A	A	A	A	A	A	A
All Other Models	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Liberty	Arc.	A	A	A	A	A	A	A	A	A
Lincoln	A	A	A	A	A	A	A	A	A	A
Locomobile	A	A	A	A	A	A	A	A	A	A
McFarlan	A	A	A	A	A	A	A	A	A	A
Marmion	A	A	A	A	A	A	A	A	A	A
Mason	A	A	A	A	A	A	A	A	A	A
Maxwell	A	A	A	A	A	A	A	A	A	A
(Com'l.)	A	A	A	A	A	A	A	A	A	A
Merced	A	A	A	A	A	A	A	A	A	A
Moon	A	A	A	A	A	A	A	A	A	A
Nash Four & Six	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
(Com'l.) (Quad.)	A	A	A	A	A	A	A	A	A	A
All Other Models	A	A	A	A	A	A	A	A	A	A
Oakland	A	A	A	A	A	A	A	A	A	A
Oldsmobile (4 cyl.)	A	A	A	A	A	A	A	A	A	A
(Model 30)	A	A	A	A	A	A	A	A	A	A
All Other Models	A	A	A	A	A	A	A	A	A	A
Overland	A	A	A	A	A	A	A	A	A	A
Packard (Eight)	A	A	A	A	A	A	A	A	A	A
All Other Models	A	A	A	A	A	A	A	A	A	A
Palge (Con't Eng.)	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
(Com'l.)	A	A	A	A	A	A	A	A	A	A
All Other Models	A	A	A	A	A	A	A	A	A	A
Peerless (8 cyl.)	A	A	A	A	A	A	A	A	A	A
Pennant Taxi Cab	A	A	A	A	A	A	A	A	A	A
Pierce Arrow (2 ton)	A	A	A	A	A	A	A	A	A	A
All Other Models	A	A	A	A	A	A	A	A	A	A
Premier	A	A	A	A	A	A	A	A	A	A
Premier Taxi Cab	A	A	A	A	A	A	A	A	A	A
R. & V. Knight	BB	BB	BB	BB	BB	BB	BB	BB	BB	BB
Reo	A	A	A	A	A	A	A	A	A	A
Rickenbacker	A	A	A	A	A	A	A	A	A	A
Rolls Royce	A	A	A	A	A	A	A	A	A	A
Star	A	A	A	A	A	A	A	A	A	A
Stearns-Knight	B	A	B	A	B	A	B	A	B	A
Stephens	A	A	A	A	A	A	A	A	A	A
Studebaker	A	A	A	A	A	A	A	A	A	A
Stutz (4 cyl.)	A	A	A	A	A	A	A	A	A	A
(6 cyl.)	A	A	A	A	A	A	A	A	A	A
Templar	A	A	A	A	A	A	A	A	A	A
Westcott (Mod. D-48)	A	A	A	A	A	A	A	A	A	A
(Mod. 60)	A	A	A	A	A	A	A	A	A	A
All Other Models	A	A	A	A	A	A	A	A	A	A
Willis-Knight	B	A	B	A	B	A	B	A	B	A
Winton	A	A	A	A	A	A	A	A	A	A
Yellow Cab	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.

Makes of Engines

When Used in Passenger Cars and Motor Trucks (Recommendations shown separately for convenience)

Buda (Mod. RU, WL)	A	A	A	A	A	A	A	A	A	A
All Other Models	A	A	A	A	A	A	A	A	A	A
Continental (Mod. B5)	A	A	A	A	A	A	A	A	A	A
(Mod. B2)	A	A	A	A	A	A	A	A	A	A
(Mod. 12XLD)	A	A	A	A	A	A	A	A	A	A
(Mod. B7)	A	A	A	A	A	A	A	A	A	A
All Other Models	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Falls	A	A	A	A	A	A	A	A	A	A
Hershey-Stull	A	A	A	A	A	A	A	A	A	A
(Mod. 15, 41, 80 & 91)	A	A	A	A	A	A	A	A	A	A
All Other Models	A	A	A	A	A	A	A	A	A	A
Hinkley	A	A	A	A	A	A	A	A	A	A
Lycening (C Series)	A	A	A	A	A	A	A	A	A	A
All Other Models	A	A	A	A	A	A	A	A	A	A
Rochester	A	A	A	A	A	A	A	A	A	A
Waukegan (Mod. 1 & 2)	A	A	A	A	A	A	A	A	A	A
(CU, DU, EU, FU)	A	A	A	A	A	A	A	A	A	A
All Other Models	A	A	A	A	A	A	A	A	A	A
Wipacoin	A	A	A	A	A	A	A	A	A	A

Transmission and Differential

For their correct lubrication, use Gargoyle Mobiloil "C," "CC" or Mobilubricant as recommended by complete Chart available at all dealers.



What is your Margin of Safety?

NO good bridge is built without providing an ample margin of safety. No skyscraper is erected without allowing a margin of safety. No good automobile is designed without making sure that there is a margin of safety in all those parts which must withstand severe strains.

No lubricating oil should be used in your automobile, truck or tractor engine which does not provide an ample margin of safety. Unusual strains are sure to come—demands of cold weather which congeals inferior oil, the added heat of a hard pull in low gear through snow or mud, the added friction of a necessary spurt of speed. Even the most careful drivers run into these conditions.

It is then that the difference between haphazard lubrication and Gargoyle Mobiloil, with its greater margin of safety, may mean

- the difference between a burned out bearing—or a protected bearing.
- the difference between a damaged engine—or a protected engine
- the difference between excessive carbon—or infrequent carbon
- the difference between dangerous frictional heat—or minimized frictional heat.

When you use the grade of Gargoyle Mobiloil specified for your car, truck, tractor and farm lighting unit, you secure the fullest possible margin of safety. For no other oil has back of it such specialized manufacturing experience and success.

That is why practically every automotive manufacturer endorses the Gargoyle Mobiloil recommendations in the Mobiloil Chart.

That is why Gargoyle Mobiloil is asked for by name at least five times as often as any other oil.

If you want the greatest margin of safety in the lubrication of your valuable equipment, you want Gargoyle Mobiloil.



Mobiloil

Make the chart your guide

TRACTOR Lubrication

The correct engine Lubrication for the Fordso Tractor is Gargoyle Mobiloil "BB" in summer and Gargoyle Mobiloil "A" in winter. The correct oil for all other tractors is specified in our Chart. Ask for it at your dealer's.

Domestic Branches:
New York (Main Office)
Albany
Boston

Buffalo
Chicago
Dallas

Des Moines
Detroit
Indianapolis

Kansas City, Mo.
Milwaukee
Minneapolis

New Haven
Oklahoma City
Peoria

Philadelphia
Pittsburgh
Portland, Me.

Rochester
Springfield, Mass.
St. Louis

VACUUM OIL COMPANY



FREE ON REQUEST

BEFORE me as I write are a number of booklets that different advertisements offered free on request. There's one on paints, telling me how they are made, how they should be applied, what I should do to mix properly, those that need mixing and a chart of colors to guide me in selecting the correct shade to match my living room woodwork with the furniture I now have.

Somebody put in a lot of time getting all that information together for me. They have contributed to my education on paints and varnishes. I thank them.

Some of the best information a farmer can get is contained in the booklets that are sent "free on request." I am turning now to another that tells how I can plumb my home—a thing I have long wanted to do. I have only a postal card invested in it—a forty-page affair, that starts at the beginning and tells me how to take measurements for my bathroom, kitchen sink, etc., and follows me right thru until I have finished and can start my pump working by simply turning a faucet or I can step under the shower after a hot day's work and get clean and rested by letting the hot and cold water supply do its needful work.

Tips on Plumbing

They even go farther than that, they arrange a dictionary of plumbing terms and when I talk to my local plumber about the job and he asks me if I intend to use "compression bibbs," I can come right back and give him as good as he sends. I'll simply ask, "Do you think they would be as good as 'fuller bibbs' and let him know I'm no greenhorn. He'd better stick to facts when he talks plumbing to me. I'm on the inside and know that a "bibb" is nothing more than a faucet and that a "compression bibb" is one that shuts off the water by means of a disc, while a "fuller bibb" is a faucet that controls the flow of water by means of a rubber ball inside.

Reliable information is cheap nowadays. I have mentioned only two examples. A thousand other examples might be given if it were necessary to prove the point.

Each year finds more farmers asking for information about the things they have bought and are using or the things they expect to use. And no one is more competent to give advice on the care or operation of a device than the man who made it. It's only natural that he may be prejudiced in favor of it, just as it's human for a mother to magnify the virtues and overlook the faults of her own children, but even at that, who has more intimate knowledge of children than their own mother? And while we're on the subject, who is more interested in the success of those children than their mother? Nobody. And nobody is more interested in the successful operation of your farm equipment of all kinds than the man who made it. Its success or failure in your hands is business life or business death to him. If you recommend it, he will prosper and if you knock it he will fail. So he is on "pins and needles" if you do not get the most out of it and he is willing to collect reliable information and put it in your hands free of charge.

For these reasons a number of associations have been organized. The manager of one of the nationally known trade associations that is interested in a certain building material told me that last year they had mailed out more than 7,000,000 free copies of various booklets and other literature, a considerable part of which went to farmers. Men of experience and knowl-

edge on the particular subject gave their accumulated knowledge. A farmer can make everything that is described in some of these booklets. Free working drawings giving accurate sizes and instructions and these they will send free of charge when requested. Moreover, specialists are maintained to answer any particular questions that might come up, or to give special advice in unusual cases that are not covered by the printed booklets.

On many subjects, the department of agriculture and the agricultural college of your state have bulletins on the same subjects as the booklets which manufacturers publish. These, too, are good. They are written by men who have studied the subjects on which they write and they are more general and perhaps unbiased than you could expect manufacturers to be, but on the other hand the man who built up a business by making a certain piece of goods well has a fund of information that cannot be obtained in any other way.—T. J. H., Ill.

RECORDS PROVE THEIR WORTH

Farm records proved their value when a group of Cass county, Nebraska, farmers opened new account books for 1925. Two consecutive years of keeping records showed these men that the time spent was well paid for.

The first year's work demonstrated the importance of a system of farming so well balanced that the cost of producing crops and livestock could be kept at the lowest possible figure. The first year's summary showed that for every \$100 invested in the hog business, the five high men made \$183.73 while the average was \$127.85. Gross returns per \$100 of feed averaged only \$120.07 while the five best farmers secured \$165.47.

A WHEEL FOR THE GATE

If you have a discarded wheel gathering rust on the scrap pile, the photograph taken of a gate on a farm in southern Minnesota shows a use which may be made of the cast off part of a wagon or other machine.

To make use of the wheel, by putting it under the gate, the two lower boards of the gate were sawed out about eight inches at the swing end of the gate. A piece of two by six was nailed to their ends and to the board above. Then the wheel was set in the opening between the brace and the



outer board of the gate. To open the gate it is only necessary to unlatch it, then push or pull it back. It wheels open and the labor of lifting the gate and opening it that way is done away with.—F. L. C.

SUMMER FALLOW KILLED QUACK

Will Moyer, a farmer of Midland county, Michigan, says that quackgrass is like a thief that sneaks in and practically takes possession before you are aware that he is on the premises. Almost before he knew it, three acres of his farm had become quack ridden. One morning, he and the hired man went back to the field with a wagon and shovels thinking to dig it out but in effect, according to Moyer, they just gave the quackgrass a much appreciated

cultivation. Not to be outdone this easily, the next spring Moyer plowed the ground shallow and went over it every ten days during the summer with a solid frame cultivator. Where the quackgrass was the worst, he rode the cultivator to drag out as many roots as possible. All season long from early to late, that quackgrass was kept from getting a green leaf. It was apparently a solar plexus punch for Moyer has had no trouble with quackgrass in this field since.

DRIVING A HASP STAPLE

Often the staple for a barn door hasp will spread when it is being driven into the wood. This prevents the hasp from fitting over it until it is again straightened.

A sure preventive is to slip a wrench over the staple just after it has been



started in the wood, adjusted to the proper width.

The staple then can be driven in the ordinary way, but the wrench prevents it from spreading.

The photo shows the manner in which this is done.—D. R. V., Nebr.

CROPS THAT POISON OTHERS

One of the strongest arguments for a change of crops in the rotation is that some crops retard growth on those that follow. For instance, it is well known that almost any crop following sugar beets or potatoes does well and the amount of plant-food that each removes from the soil seems to lend scant explanation to this fact. Whether or not the crop leaves a toxic substance in the soil that poisons the succeeding crop of the same kind is a debated question.

Four years of carefully weighed results made by the Indiana station on the Wilson farm, a soil of medium fertility, show that corn after clover yielded 57.9 bushels while corn after soybeans yielded but 49.4 bushels. Corn after corn yielded 47.5 bushels or ten bushels less than after clover. Corn after timothy yielded 46.7 bushels, while the lowest yield of all was corn after wheat which made but 41.1 bushels.

Oats following soybeans yielded 56.4 bushels, a little more than oats following clover which was but 55.8 bushels. Oats after corn yielded 52 bushels, after wheat 49.2 bushels and after timothy 41.7 bushels, the lowest of any succession crop recorded.

Wheat after clover registered 33.6 bushels, two bushels more than wheat after soybeans which made 31.6 bushels. Wheat after timothy, made 23.4 bushels while wheat after itself made the poorest showing of all or 20.4 bushels.

Here is one "do" and three "don'ts" that stand out plainly. Do sow grain after clover or soybeans whenever possible. Don't sow wheat after wheat or corn after wheat. Never sow wheat after timothy except as a last resort.—I. J. M., Ind.



Go to Movies by the
BRAND NAME PARAMOUNT
and you'll go right!



Gloria Swanson
who starred in
The Humming Bird
A Society Scandal
Manhandled



Pola Negri
who starred in
Shadows of Paris
The Spanish Dancer
Forbidden Paradise



Betty Bronson
who played Peter Pan.
Everyone from eight to
eighty ought to see this
picture. Mothers'
clubs, schools, churches
should get back of it.
Tell your theatre man-
ager to get it as soon
as possible.

THERE'S been a big difference in quality between various brands of pictures for some years past, and naturally those going to the movies regularly discovered it first.

The same great quality that has made this concern or that the leader in harvesting machinery or automobiles or oil has also made one concern the leader of the motion picture business.

You can see the difference, the real superiority in entertainment values in any Paramount Picture.

Don't stay home every evening! Dreams come true with these better pictures, dreams of seeing and sharing all the wholesome excitement that life could give you with youth, beauty and a barrel of cash!

Look back over your own life!

Have you had your share or more of monotony and chores? Begin now to balance work with entertainment and your heart and work will be lighter.

Broadway itself has nothing finer to offer than Monsieur Beaucaire, Wanderer of the Wasteland, Salomy Jane, Grumpy, Flaming Barriers and dozens of other wholesome Paramount Pictures.

Paramount Pictures attract regular visitors and more life to any community. The theatre improves and attracts people from miles away. Make it a real community center—a meeting place for young and old.

Young folks don't quit for the cities when life's worth while at home.

Meet your theatre manager. Every Paramount exhibitor wants to know his patrons, particularly people from out of town. Encourage him in his choice of the better pictures.



Thomas Meighan
who starred in
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Woman Proof
Homeward Bound



Richard Dix
who appeared in
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Sinners in Heaven



Zane Grey
author of
Heritage of the Desert
The Call of the Canyon
To the Last Man

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Paramount Pictures

Famous Players - Lasky Corporation, New York City

If it's a Paramount Picture it's the best show in town!



FERTILIZER PAYS NEFF

FRANK NEFF, a farmer of Elkhart county, Indiana, is a livestock man who includes wheat in his rotation. For the last nine years, Neff's average wheat yield has been more than 30 bushels to the acre except one year. That year, not more than half the wheat in Elkhart county was harvested at all and even then Neff got a yield of 20 bushels to the acre.

How does he do it? Neff has been using Red Rock wheat for several years, but he does not believe the variety is responsible for the yield. He follows several worth while practices. He rotates the crops, keeps the manure under a covered shed and uses fertilizer in heavy doses.

Neff is a business farmer, all of his income coming from the farm. Nor did he heir any of his land. We throw in this explanation to show that Neff knows what he is doing and he would not continue to put on allopathic doses of fertilizer year after year without knowing that it paid.

Since he has a livestock program which includes dairy cows, he uses a rotation consisting of corn, corn, oats; or soybeans, wheat, then clover seeded in the wheat in the spring. But he not only puts his manures that have been conserved in a covered manure shed onto the clover sod, but he also uses fertilizers on all the crops he sows. On the corn, he uses from 75 to 100 pounds of a 2-12-2. Most people do not use fertilizer when they sow oats, but with his oats, Neff puts on 200 pounds of acid phosphate. Then on his wheat, he puts 250 pounds of 2-12-2. He believes in high-grade fertilizers and this year, he put on half as much of a 4-24-4 which he says did not cost him twice as much per ton as the 2-12-2.

The commercial fertilizers also increase the growth of clover, Neff states, almost enough to pay for the fertilizer in the added growth of the clover.

Neff finds the soybean a very fitting crop for his needs because large crops of wheat follow sowing in soybean stubble. The year that Neff registered his largest yield, when 30 acres of wheat averaged 48 bushels to the acre, he sowed the wheat in soybean stubble in the fall after discing the field thoroly but not plowing the ground.—I. J. M., Ind.

HOW TO CHECK CORN STRAIGHT

For years we have been trying to find the secret of checking our corn so true that the rows will be straight from any direction we may look. We wanted to be able to do it, not only one year out of three or four, but four years out of four years.

We knew there was some way of knowing, even while we were planting, whether the rows would be straight or not when looking crossways without having to wait until it came up to see. But how to find this out is what took us so long. We first started by asking every good farmer how he did it, and we received such a variety of answers that we almost despaired of ever being able to really know. Some told us that it was all in the driver; others said that it depended on the kind of a team we had; and again we were told that the only thing we had to watch was to keep our wire real tight; and some said the kind of a planter was what made the difference.

After years of experimenting we are now able to check our corn so the rows look straight regardless of what angle we look at them, and we can do it four years out of four years or every field every year.

If you have been having the same trouble just follow these simple rules and you need never fail again.

Keep check wire drawn until all the slack is taken out.

Keep the tension of the wire the same.

After you have planted a row, and about one-third of another, stop and walk back of the planter one hundred hills. Pick up the check wire and place it over the row you have just planted; dig down at a knot on the check wire and see if you find a hill just under the knot. If you do, go on planting for everything is going correctly.

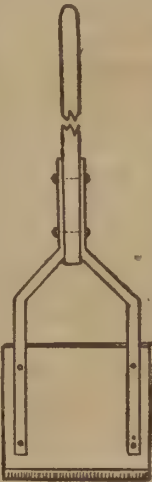
But, if the hill is found before the knot on the chain, lower the neck-yoke and test until it just hits.

If the hill comes after the check on the chain, raise the neck-yoke and test until it just hits.

Thus, by testing the first few rows, you can be sure that every hill in the rest of the field will be in its correct place.—R. L. M., Ohio.

A HANDY TOOL

For use in the garden, lawn and in the field, under and around fences where you cannot reach with a hoe, this push hoe or tool is very handy, you can get all the grass and weeds.



It is especially good where there are Canada thistles, as it gets them just beneath the surface of the ground and soon ends their existence.

With a cold chisel cut a piece from an old spade, shovel or cross-cut saw, about 4x6 inches in size. Grind or file one six-inch edge sharp. Have two holes drilled, one-eighth inch in diameter, three inches apart, and one inch from the edge. Get two pieces of strip iron, twenty inches long, one inch wide and one-fourth inch thick; have both pieces bent in a half twist; it can be done by fastening the strip in a vice, six inches from the end and with a large monkey wrench fastened to the strip above the vice, give it a half twist.

Drill two holes in each end of these two pieces, two in the six-inch ends to match those in the blade, to which you will afterward rivet or bolt the blade. Bolts are best as you can then remove the blade to



How the tool is used

sharpen it, or put on another. Two holes are drilled in the long ends of the strips of iron, six or eight inches apart, to which is bolted an old fork handle, or a handle shaped from wood. Keep it sharp and you will be delighted at the way it gets the weeds you would not get before.—J. R. K., Ind.

OUR CRIPPLED CHILDREN

I had hoped that my last appeal would clear up the debt of the Crippled Children's Fund and leave enough to put Ellis and Allie back on treatments. You already know that Ellis is working until we get money enough to send her back to the doctor. She stands on her feet nine hours a day in a book bindery. It is not good for her curved spine to do that but she has to live and has to do such work as she can. I

hope to soon take her out of that work but dare not start without ample funds to pay her room rent and board and car fare to the doctor's hospital for daily treatments. A kind couple out in Montana sent us \$20 for her. Fine. She surely appreciates such kindness. Others have been generous too, so the debt has been wiped out and we are now building up the fund so we can soon tell both girls the good news that they can take further treatment.

Allie writes: "If you can send me money for the trip (to the doctor) I would surely appreciate it, and if you feel like you can I would be very glad for you to pay the two dollars for work done on my shoe last fall. What money I have to buy my clothes and medicine with I make selling fancy work. I spend most all my time that I am able crocheting."

"You all have done so much for me and I appreciate it more than I can express. My leg is getting along nicely now and I am hoping that some day I will be able to walk."

Many of our readers have gotten real pleasure out of contributing to these crippled girls who would not be like other girls if nothing was done to cure their deformities. Put one of our legs out of commission for just one day, or put an arm in a sling and see how much of life you will miss.

As soon as the fund is sufficient I will have both girls back on treatment and stay by them until they finish. Right now is no time to leave them stranded. They will lose all the benefit they have had unless they go ahead. Of course, everybody will contribute a little. The small sums are as welcome as the large sums. It takes \$110 a month for Ellis, and not so much for Allie, for she lives at home and makes trips to the hospital once in a while.

Make all checks payable to Successful Farming and send all money with C. C. Fund marked on the lower left corner of the envelope so we know what the money is for.—Alson Secor, Editor.

TRACTOR SAVES TIME AND LABOR

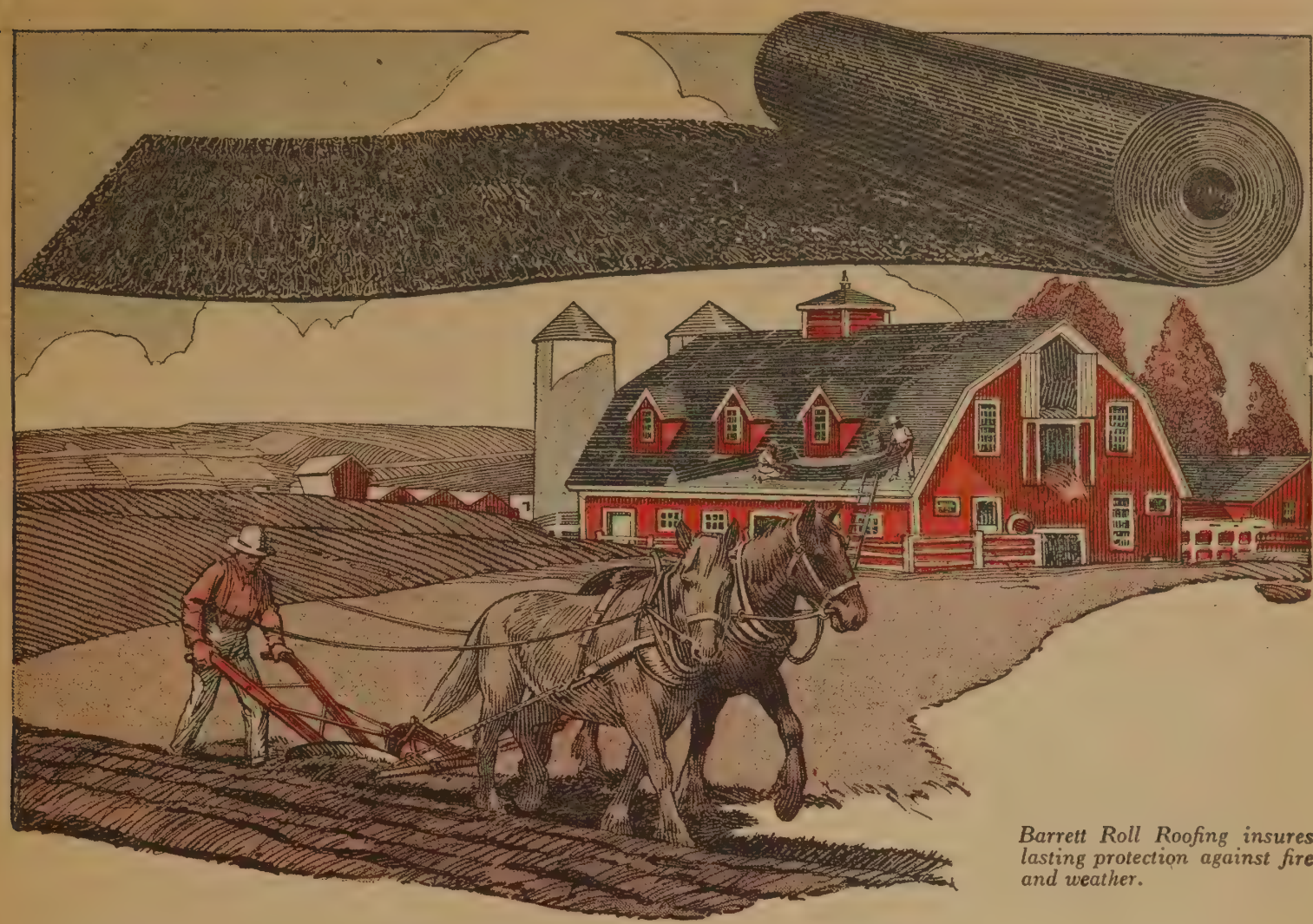
Early in the spring of 1920, Asa A. Miller, young Cass county, Iowa, farmer, bought a two-plow tractor, and he has never regretted the purchase. He finds that it has a great versatility of uses and, in his opinion, when it comes to the matter of efficiency, the horse cannot begin to compare with it.

"During the five years that I have operated the machine," says Miller, "I have used it to plow, disc, harrow, load hay, grind feed, saw wood, pull stumps, shell corn, drag roads, pull posts, stretch fence, move small buildings, pull the roof on a shed, and for other jobs that do not come to mind just now."

"In plowing, I use two 14-inch plows and in a full day ten acres is turned over. The tractor consumes fifteen gallons of gasoline and two quarts of oil in a day of this kind of work. When the machine is in use, I drain the oil at least once a week."

"The tractor saves me a great deal of time and labor in the operation of this 120-acre farm. In plowing and discing, it will do the work of two men and eight horses. The hardest job I have ever given the machine was the pulling of an eight-foot tandem disc and a two-section harrow on plowed ground. It did the work in fine shape."

"During the five years I have had the tractor, I have overhauled the engine three times and my total expense for repairs during that time was \$75. I find that when grain is high-priced it will do a given amount of work more cheaply than horses, but not when grain is cheap, as it has been the past few years. But even so, I figure that I am ahead when I consider the amount of time and labor saved."—W. C. M., Iowa.



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(It's 100% right for farm buildings)

How carefully you guard your bonds, deeds and other securities! But your hard-won crops and expensive implements! Are they as well protected?

This is a good month to make every building lastingly tight against drenching, driving rains—against winter's snows and thaws. And this time put down roofs that endure—roofs of Barrett Everlastic Smooth-Surfaced Roll Roofing.

Once down, this rugged roofing is off your mind—gives long years of repair-free, weather-tight protection. Its base is a thick, tough felt; Barrett-made to insure uniformly high quality. (Barrett Felts have been recognized as the standard by architects, building contractors and roofers for more than half a century.) It's wa-

terproofing is asphalt, specially processed under the strictest control by Barrett laboratories.

This rugged roofing never rots or rusts. It's easy and economical to lay (skilled labor is not required). Moreover, it's fire-safe, flying sparks and embers fizzle out harmlessly on its surface—(a big point to men living far from a good fire department).

See the full line of Barrett Roofings. A wide variety of colorful, slate-surfaced shingles—roll roofings both smooth-surfaced and slate-surfaced. Leading lumber, buildingsupply and hardware merchants have these quality roofings in stock. Your dealer will show you a Barrett Roofing that exactly meets your needs—at an extremely reasonable price.

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(Green Red Blue-Black)

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- Everlastic Single Shingles
- Everlastic Multi-Shingles
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Comfort and Convenience for the Farm Family

By GEORGE L. RUSSELL

SEVERAL years ago, when I began making plans for a new home, I naturally had to go to the city to find an architect and try to find a plan that would be suitable for our contemplated dwelling. I came home from my city visit very much disappointed; altho I had examined hundreds of plans and looked thru many finished houses I did not see a single place that seemed to be suitable to our farm home needs. I gathered many building ideas that afterwards helped me in making my own plans, but they were much different when finished than the ideas worked out in the city home.

Our daily life in the country are very much different from the daily life of the average city family. Not only do we live differently but housekeeping and the preparing of the meals is not the same. The majority of farm folks do not try to keep help all the time; it is not always the expense of the help but the uncertainty of having help. In the city, if the cook leaves, it is most always possible to call up the employment agency and get some kind of a cook till you can do better. In the country, if the cook leaves, it is up to some member of the family to prepare the meals or go hungry.

The preparing of meals and the supply of food products is very different in the country and in the city. The city housewife may wait till ten o'clock without a thought of the noonday meal and then go to the telephone and have the butcher send up a dressed chicken or a meatloaf already prepared, a few cans of vegetables and fruit and dinner is soon ready. The farmwife's chicken is in the poultry house, the vegetables are in the garden and fruit on the tree.

The farm home is not only a home but it is in many ways a workshop; it must contain an office or at least desk room for bookkeeping and the business end of the farm. The kitchen is not only a place to prepare meals but it must be a workshop for the canning of fruit and vegetables for winter use.

So, after I had exhausted most of the city plans for a suitable home I began plans of my own, not from an architectural standpoint but from a standpoint of the daily life and needs of our family and daily life on the farm.

First of all, our location was very good in regard to the other farm buildings, as the large barn was almost due west of the house and the hog barn a little west and north of the main stock and feed barn. The poultry houses were south and on lower ground.

I planned a large living room, or rather a combination of two rooms on the west side of the house; one of these rooms has a large fireplace with bookcases and magazine cases for farm papers on either side, and two large, north windows facing the front of the house. The second part of this living room has four large windows on the west side and from these windows may be seen all the other buildings on the farm. Under these windows is a large window seat and the room is finished somewhat like a sunparlor. The window seat has three large drawers, one of which is given to the children for their toys, another is for their school books and extra school supplies that would otherwise be scattered about the house. The other drawer I use for extra office supplies, as it is convenient to the office.

The office is on the south of the living room and has an outside door with a small porch. There is a door from the living room to the office and also a door from the office to the laundry. From the laundry you may go to the basement or up the back stairway, so it is very convenient to any part of the house or outside.

The front hallway is connected to the living room by a large double door and we have a downstairs bedroom with bath off the hall on the east side of the house. This bedroom is built to take the place of a sleeping porch in the summer and has large south French doors, two large north windows and a high east window and we have always had a comfortable bedroom in the hottest days.

You may wonder about the living room on the west side of the house in the summer, with

all those west windows. Well, I expect it would be pretty hot, but we have quite a lot of shade on the west side and there is nearly always a southwest breeze in the hot summer. Then, we do not live in the living rooms much in summer; we are out on the large east porch, which the sun leaves about two o'clock. The office, too, would be hot in the afternoon but we have vines over this west porch and do not do much office work in the afternoon; this work is done in the morning when this is the cool side of the house.

The dining room has French doors into the living room and also an outside door from the large east porch. We find it very convenient in the summer to come direct to dinner from the porch. There is a large built-in buffet with china compartments and linen and silver drawers. There is also an extra closet in the dining room for large pieces of china, chafing dishes, table pads and the extra table leaves, for which there is not usually a fixed place.

The kitchen is directly off the dining room. There is no butler's pantry between these two rooms; in fact, there is no pantry in the kitchen, but there are built-in cabinets for all the kitchen utensils and a built-in pastry cabinet, with bins for fifty-pound sacks of both hard and soft wheat flour and a bin for 100 pounds of sugar. A wood box is built in such a way that it may be filled from the outside and a small open-air cabinet for food and vegetables opens with a sliding door in the kitchen and is covered with screen wire and muslin outside. A sink is under a large window on the east side of the room.

There is also a breakfast alcove off the kitchen with benches and table large enough for six or eight. When we have no help in the house, we find it much easier to serve the meals in the alcove and not only breakfast but all the meals are served there.

The laundry is between the office and the kitchen and has an outside door, also basement

stairway and back stairway to the second floor. There are stationary laundry tubs under the large west window and a place for the electric washing machine, which is movable; also a place for the soiled clothes, cabinets for laundry supplies, a

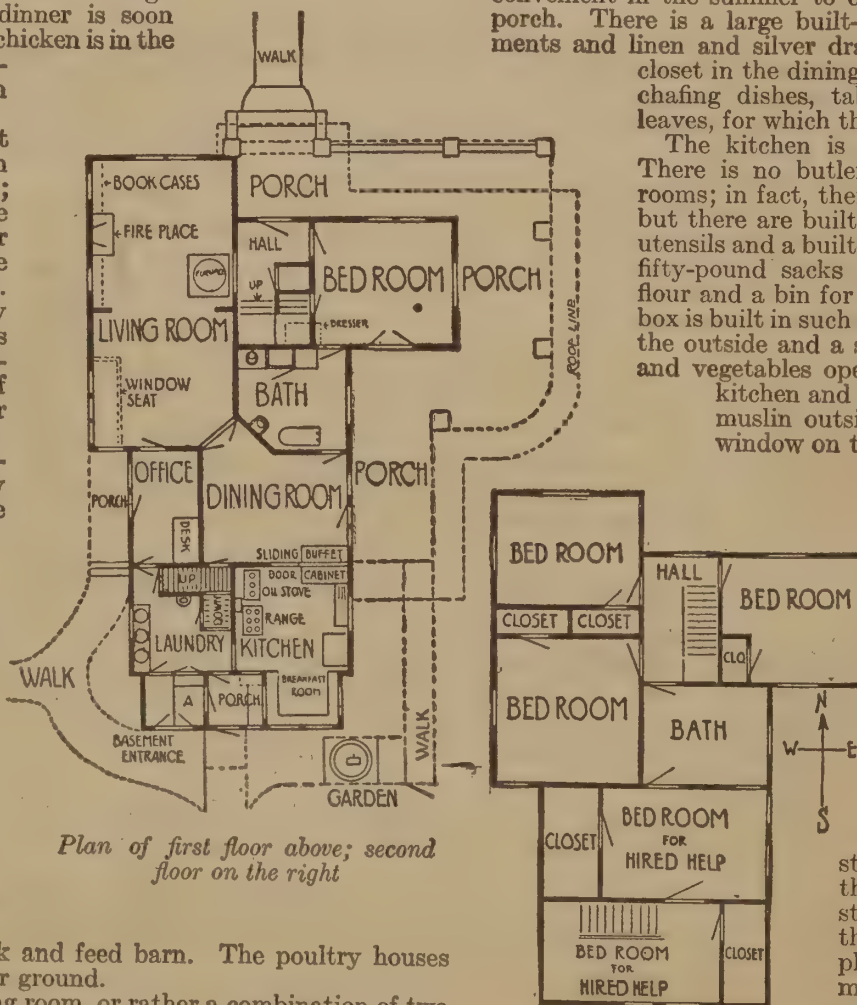
folding ironing board and electric iron, a drawer for face towels and another for shoe polish and brushes. With a lavatory and a small looking glass the hired man may come into the laundry in the summer and get ready for dinner without going to any other part of the house. A very small back porch provides a shelf or table for the milk buckets and pans. In the winter a storm door and window replaces the screen and this back porch is a cool place for milk and meats.

The second floor has three large bedrooms and two small rooms suitable for hired help. The three large bedrooms all have north and south windows and are

(Continued on page 95)



A farm home that was planned to serve farm needs



Plan of first floor above; second floor on the right

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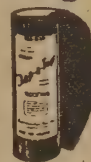
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PUTS RADIO IN RURAL SCHOOLS

Note. Radio knows no state or national boundary lines. The good things told about in the following article can be enjoyed by anyone outside of Kansas who has a receiving set. In fact, the first radio course given by the Kansas agricultural college had enrollments from all but nine states in the Union. One man in New Jersey invited in sixteen families to hear Professor L. F. Payne's talk on poultry.

FEBRUARY 2, 1925, just a year to a day since the first college of the air was inaugurated by the Kansas extension service, another innovation was announced, radio education for rural schools. There are nearly 10,000 within the boundaries of the state.

Going to school by radio met with the popular approval of the Kansas farmer and his wife the winter of 1923-24. A thousand of them enrolled. There were nine courses touching the fields of agriculture, home economics and engineering. At the end of ten weeks an examination was held and certificates awarded to nearly 400 pupils.

The experiment was conducted thru a station privately owned. Its success was decisive and the college invested in a new ultra-modern plant which was dedicated to the service of the state December 1st. Enrollments in thirty radio extension courses now total approximately 10,000.

"This Is Great Stuff"

The Kansas farmer gets another inoculation of this better farming serum at noon each week day. If the deluge of complimentary letters received by the college daily are a true barometer of his appreciation, he must say over and over to himself, "This is great stuff." The radio question box, which is featured along with two concise, timely talks, is the greatest hit. "If other farmers are benefited as much as I am, your radio service is worth ten million dollars each year to the state," one enthusiast writes.

The housewives have a special program each week day at 10 a. m. Just a half-hour to relax and listen to a little gossip about new happenings of special interest to women, some timely hints on the care of the children and other domestic problems and "what to eat today." "I wouldn't mind getting the meals if I just knew what to cook," is the common expression which is being met by practical suggestions in the way of menus and a few good recipes.

But to get back to that crop of 100,000 boys and girls!



A typical district school in Kansas. The children are exercising by instructions received by radio from the State Agricultural College

Perhaps you, too, trudged across the fields to the district school. Most likely it wasn't the traditional little red schoolhouse, either, but drab both inside and out. Have you visited one lately? They haven't changed much in fifty years. In Kansas today radio is filling these schoolrooms with the best talent and education available at the state college. It has just started, but who can say where it will end.

Music for the singing exercises is furnished by the best musicians. Then the head of the college music department gives the music lesson. It is followed by an

instructive talk on some fascinating subject handled by an expert. For instance, a naturalist acquaints them with their bird friends or an entomologist awakens their interest in insects. To keep their young bodies fit, the director of athletics at the college takes these little isolated groups in charge for five minutes of calisthenics.

Evenings the schoolhouse is the community meeting place for state-wide radio meetings scheduled regularly from radio station KSAC. They are for farm bureaus, boys' and girls' clubs, crop, livestock and shippers' associations and other auxiliary farm organizations of the college, which hold their business meetings at a prearranged time and then tune in for their program.

On Sunday a church service is broadcasted of a nature which can be entered into by people of all faiths. There are hundreds of rural churches in Kansas that are without pastors. These are of all denominations. Some of them have been without leadership for ten years. The number has been estimated at 1,000.

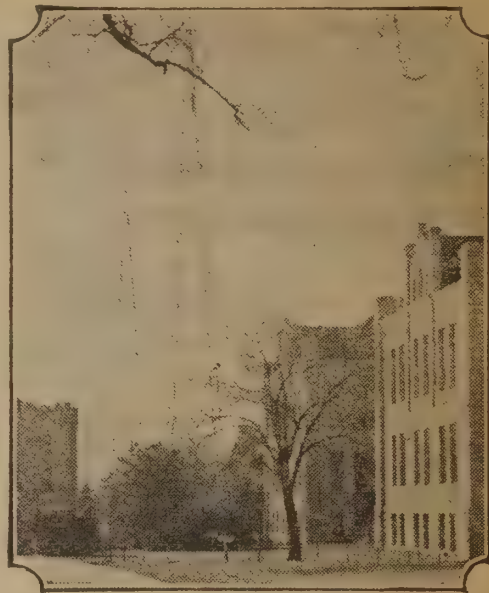
The state-wide campaign to "radioize" the rural schools, launched by the extension service of the college the first of January, is making great progress. County agents, chamber of commerce secretaries and school superintendents are pulling together in an effort to have an aerial on top of every country school in Kansas. Several of the counties are vying with each other to be the first 100 percent equipped.

Kansas is proud of her past pioneer achievements and may again stop to realize that another new page in history is dedicated to her progressiveness.—S. P., Kans.

IT IS EASY TO OPERATE

Many people have hesitated about installing a radio receiving set because they have felt that it required a great deal of technical knowledge to operate. This is a false impression that is unjust to radio. It might be stretching the point just a trifle to say that a radio set is as easy to operate as a phonograph, but it would not be far wrong. There is no particular reason for the average person to worry himself as to why a radio works as it does. The average driver has no conception of how a gasoline engine really works. He knows that he pushes a button and the engine starts,

just a trifle but it is safe to figure that during the six cold months of the year, at least, an average receiver will pick up programs over a radius of eight hundred to one thousand miles and deliver them perfectly, into the home, hour after hour, seven evenings per week. How it does it, and what makes it work, need not worry the user. It is true that batteries are required, and these must have a modest amount of attention at times, just the same as automobiles need atten-



The 160-foot towers at the Kansas College broadcasting station

tion, or cream separators, etc. As a matter of fact, radio is not nearly as mysterious as an incubator, which the average farm wife has been expert with for years, and without which the average farm would be incomplete.

Don't worry about the whys and wherefores. A radio set is not difficult to operate and they are a pronounced success, and pay a bigger dividend in entertainment, instruction, and general information than anything the farmer can own.—R. W. L.

HINTS ON TUNING

When operating a radio set, tune slowly. That is, move your various controls slowly, or otherwise you may go right past a station and not hear it. Try to form an idea as to just what each control does, so that you may adjust it intelligently, if you are to get the most out of your set.

Do not crowd your set beyond its normal strength, in order to get volume. In the first place, volume is not radio, and is usually less pleasant than lower tones. In the second place, many stations, especially under certain weather or atmospheric conditions, just simply will not come in with the power that you might hope for and nothing you can do will alter it.

Use judgment in the care of batteries and do not expect your set to work its best unless it has had the attention that the manufacturers recommend for it.

When you hear a station you like, make a record of the dial settings on each control so that you will know just about where to search next time you want to hear the same station. When you hear a good program, write the stations thanking them and the performers. It is the only reward they get. When you hear a program you do not like, tune in on something else, remembering that the program that you did not like might just exactly suit thousands of others. Do not hesitate, however, to write the stations giving suggestions as to what you do like, as station managers are anxious for just such information.—R. W. L.

and he no longer wastes any energy wondering why. The same thing is true of the radio set after the first glamour of newness has worn off. The average ten-year-old boy can operate the average receiving set and get perfectly satisfactory results from it after an evening or two of practice. The average radio dealer will be glad to give full instructions and demonstration with his equipment so that no one need worry about the mystery of the science at all.

Radio is really a practical thing. Stormy weather at times handicaps things

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STARTING TEMPORARY PASTURES

Farms too valuable for permanent pastures must provide some source of forage when livestock in any numbers is kept. As a rule, a grass mixture is seeded with a nurse crop to provide pasturage the following season. One season of grazing is all that is ordinarily expected from it.

John Smith of Champaign county, Illinois, seeds thirty-five acres for pasture each spring. A grass mixture of 50 parts sweet clover, 35 parts timothy and 20 parts alsike is drilled with wheat. Last year his pasture carried two and a half head of livestock per acre thru the season. His chief problem is to pasture it heavily enough. The rotation used is corn, corn, soybeans, wheat and pasture. Twenty acres of oats are raised just for feed and hay comes from the soybeans and an alfalfa field.

In Woodford and Knox counties, Illinois, many farmers have had success with the following mixtures:

No. 1. Three pounds sweet clover, 3 pounds alfalfa, 3 pounds alsike, 3 pounds timothy, 3 pounds red clover. Seeded with $1\frac{1}{2}$ bushels oats or alone on land free of weeds.

No. 2. Three pounds red or mammoth clover, 3 pounds alfalfa, 3 pounds alsike, 3 pounds timothy, 3 pounds red clover. Seeded with or without nurse crop. Early oats is a good nurse crop.

No. 3. Eighteen pounds common sweet clover alone—no nurse crop.

No. 4. Emergency pasture—10 pounds sudan grass, 3 pounds rape, 1 bushel oats. Add 10 pounds sweet clover per acre if you want this pasture for next year.

The University of Illinois recommends $1\frac{1}{2}$ to 2 bushels of oats, 2 pounds red clover, 2 pounds alsike, 2 pounds sweet clover, 2 pounds timothy and 2 pounds rape. If the pasture is used only one season, the alsike, red clover and timothy may be left out.

Roy Bates, farming in Macoupin county, Illinois, pastured sixty head of hogs and four head of cattle from May 1st to September on five acres of volunteer sweet clover.

I. V. Coffin, Humboldt county, Iowa, seeded thirteen acres to red clover, timothy, alsike and white clover in 1922. Since then it has had two dressings of manure. Last season it carried 11 sows with 70 pigs, 6 horses, 2 colts, 2 cows and 118 ewes with their lambs from May 15th to August 15th.

PRIZES FOR RADIO LETTERS

In order to better serve our readers who are interested in radio and answer the many questions received from those who are seeking information on that subject, our radio editor is asking the help of our farm radio users.

He offers \$10 for the best letter, \$5 each for the second and third, and \$2.50 each for the fourth and fifth letters. In addition, the writer of each letter who does not receive one of the above prizes will be sent a valuable radio map in return for his or her trouble.

Be sure to answer the following questions in your letter: (1) Give three reasons why you got a radio, or at least as many reasons as occur to you; (2) What benefits have you derived from your radio set? (3) How far did you have to go to get it? (4) How many kinds of sets did you have to choose from when buying your radio?

These questions cover some of the points in which he is especially interested, but he will be glad to have you include any of your interesting radio experiences in your letter.

The letters must reach us by April 20th. It will only take a few minutes to write a short letter. Do it right away, before you forget it, and mail it to the Radio Editor, Successful Farming, Des Moines, Iowa.

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FOODSTUFFS ROUND THE WORLD

American wheat growers during 1924 profited from the very unusual situation created by a large United States wheat crop at the time of a short world crop brought about by low yields and a smaller acreage. Good prices were also due to increased consumption of wheat which has been on a definitely lower level since 1918 than before the war.

Late February reports covering more than half the total winter and spring wheat areas of the northern hemisphere outside of Russia and China show an increase in acreage sowed of about three and one-half percent over last year. The Argentine wheat crop threshed about the middle of February was not so large as last year. Conditions in Australian wheat fields are reported as very satisfactory. World supplies at the beginning of this year's harvest are likely to be very low.

Hog Products

The outstanding development of the past year in the world pork situation was the beginning of the downward swing of production in the United States. European countries generally maintained or increased pork production thruout the year. The upward trend abroad is likely to stop in 1925, however, due to high feed prices. Smaller production in the United States has always been followed by a similar development abroad.

This tendency is always apparent in Ireland and is certain to show itself soon in Denmark and Holland. Hog production in Argentina has been falling off for three years while in Brazil it has increased slightly. No important change is expected from either country during 1925. American exports of bacon and hams fell to 638 million pounds for 1924 compared with 829 million pounds in 1923. Lard exports dropped from 1,035 million to 944 million pounds during the same period. Larger exports from Denmark, Canada, Holland and Ireland made up the shortage.

Cattle and Beef

Prospects of reduced pork supplies and increasing prices have already increased the European demand for beef. There is no chance, however, that the change will affect the American beef trade as the United States cannot compete with cheap Argentine beef. Neither is it likely that the price level will be changed sufficiently to attract Argentine beef to the United States. The Australian cattle industry is still seriously depressed and unable to compete with that of Argentina.

Dairy Products

World dairy market prices are now so low that any marked increase in price in the United States will let in foreign butter over the tariff wall. Production of butter in western European countries is fully back to prewar normal and in many cases is above. Russia is again becoming an important source of supply for world markets. Production in New Zealand, Australia and Argentina has exceeded all past records and will not only strongly influence 1925 markets but will continue a strong future factor. European demand cannot be expected to improve as it did last year.

Sheep and Wool

The outlook for the world sheep industry during 1925 is favorable. While conditions have been bad for two seasons in Australia, the lamb crop for 1924-25 was good and the grazing season promises to be a good one. New Zealand is maintaining her sheep industry while greatly increasing her dairy business. Other sheep countries are showing either a slight decrease or a stationary condition. Wool substitutes such as cotton and artificial silk are the most likely causes of a lower price level in the course of the coming season.



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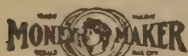
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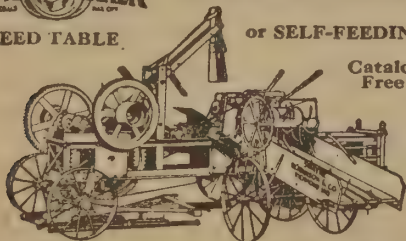
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TIME TO KILL RODENTS

Three kinds of gophers common to the cornbelt do a vast amount of damage to newly planted corn and new seedlings. They are the mound building pocket gopher, the small striped squirrel and the large, bushy tailed Franklin squirrel.

Whole counties in Minnesota have organized against the pocket gopher, the leaders being Dakota, Ramsey, East Ottertail and Kittson. The main runways are opened, the poisoned bait dropped in and the hole carefully closed.

One-eighth ounce of powdered strychnine alkaloid, one-eighth ounce baking soda and one-eighth ounce saccharin, properly mixed, is sufficient to poison four quarts of vegetable bait. Potatoes, carrots, parsnips, beets and turnips make especially good bait when cut into small cubes and sifted over with the poison.

Kansas has a rodent specialist, A. E. Oman, who helps any place in the state where he is needed. He recommends poisoned oats for pocket gophers. A bushel should account for 1,000 gophers and 20 to 40 acres a day can be covered.

His way of preparing the bait is as follows:

Mix thoroly one ounce of powdered strychnine (alkaloid) and one ounce of common baking soda. Dissolve one heaping tablespoonful of dry laundry starch in a little cold water and add it to three-fourths pint of boiling water. Boil and stir until a thin, clear paste is formed. Slowly sift the mixture of strychnine and soda into the starch paste, stirring constantly to form a smooth, creamy mass. Add one-fourth pint of heavy corn sirup and one tablespoonful of glycerine and stir. Add one-tenth ounce of saccharine, and again stir thoroly. Pour this mixture while still hot over thirteen quarts of clean oats and mix until all the grain is coated.

Spring is the best time to reduce the ground squirrel population Missouri farmers have found. Either variety is easily poisoned with a strychnine grain bait.

Gassing with either calcium cyanide or carbon bisulphide is also effective. Calcium cyanide is easier and more pleasant to handle than the carbon bisulphide and more effective under varying temperature conditions. One ounce of the cyanide flakes to each burrow is ordinarily sufficient to make a kill.

This method is also effective with ground hogs. About two ounces, one to each entrance, will be necessary for a den. Strychnine-poisoned baits of apples, carrots or sweet potatoes are also useful in ridding a field of ground hogs. Several of these baits can be placed near or within the entrance to the burrows.

SOME REMEDIES FOR TIRED PASTURES

Continued from page 13

phosphate was less than \$8 an acre. Pastures in Guernsey county that have been treated are reported to be able to carry twelve times as much livestock as the untreated pastures. L. S. Stacey, a dairyman in Washington county, applied one-half ton of lime and 400 pounds of acid phosphate per acre to his pasture in March, 1923, and reports its carrying capacity has been increased at least four times.

In Hennepin county, Minnesota, E. B. Waldhiser had a half-acre of ground among some trees that needed seeding. He disced and harrowed the piece thoroly and seeded it to red clover and timothy. A considerable accumulation of dried roots and weeds was disposed of by dragging the ground both ways with a large branch. This rolled up the trash in good shape and a fine stand of grasses followed.

At the Iowa experiment station a number of pasture plots have been receiving various treatments for three years. Co-operative work with farmers on pasture improvement in all parts of the state has also been done for several years. So far,

results obtained indicate that old blue-grass pastures may be improved and kept in good condition by discing, reseeding, manuring and proper fertilization. It is suggested that further tests be made with 150 pounds of acid phosphate per acre annually. While the value of barnyard manure is recognized, this material is not generally available even in moderate amounts for pastures.

IS YOUR FARM UNDER- OR OVER-EQUIPPED?

Continued from page 15

service from any machine.

It is not my purpose to urge the purchase of new farm implements and machines, but I do most earnestly urge that the matter of equipping the farm for most efficient operation be given that attention and thought that its importance deserves. Certainly, it is just as unwise and wasteful to over-equip a farm and have money tied up in implements which are not needed and do not return a fair rate of interest on the investment as it is to permit an equal waste thru lack of sufficient equipment. It is wasteful to be either over-equipped or under-equipped. True economy lies in fitting the equipment to the needs as closely as possible.

Many who have realized the need of new farm implements during the last few years have felt that the cost of farm machinery was too high in proportion to prices of farm products. This has been true of practically everything that farm people have had to buy, but has been true in less degree of farm implements than most all other classes of products. Of course, the cost price of an implement is an important factor in determining the profit which may be derived from an investment in it, but the real question that must be decided is whether a particular implement or machine will be a profitable investment at the price which must be paid for it.

HOW MUCH LAND DO YOU LOSE EACH YEAR?

Continued from page 11

tends to hold the post (A) and the brush more firmly in position and little trouble is experienced in holding these dams in position.

It is a mistaken idea to use brush loosely piled on the upstream side of posts set in the bed of the gully. I have seen some very large brush dams built in this way and seen them wash out when the first flood came rushing down against them. Any dam which obstructs the flow of the water and allows it to pour over the crest will eventually wash out, unless some provision is made to stop the washing action of the water where it strikes below the dam.

It sometimes happens that a fairly large ditch may be stopped by piling it nearly full of brush and staking it down thru the entire length. Several loads of straw are then hauled and scattered over the brush and the sides plowed in until everything is covered. This method is good where plenty of brush is available. Further erosion may be prevented in ditches of large size by placing obstructions at frequent intervals along the bottom. This may be accomplished by setting two rows of stout posts of durable wood across the bed of the gully as shown in Figure 4. Between the rows of posts is piled field stone, brush or almost any cheap bulky material which comes to hand. The obstructions must not be spaced too widely. For ditches with a fall of 2 feet per 100 feet the dams will be more effective if placed from 75 feet to 100 feet apart.

In conclusion it may be stated that better success will always be obtained by using many small dams of brush or straw in a ditch rather than a few large ones. When many obstructions are used, the entire ditch fills at one time and there is less tendency to cut around and under the dams.



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Clean Fruit Is a Matter of Pest Control

Here Are Some Pointers on How to Control Insects and Disease

By L. S. GOODE

SUCCESS in this business of getting complete control over the usual run of plant pests, including both insects and fungi, is merely a matter of the right thing put on at the right time on the right place.

It doesn't matter so much whether we have a spray gun or a spray rod, a power sprayer or a hand pump. The thing that matters is the way you use the equipment you do have available. I got ninety-eight percent clean apples once with four sprays put on trees that had never been sprayed before. The equipment consisted of an antique barrel spray pump, twenty feet or so of hose, a ten-foot spray rod with Y nozzle, and a fairly willing young chap to keep the pump handle going up and down at regular intervals. I suppose the pressure ran around seventy-five to a hundred pounds. I know we used the right dope. I know the trees were covered thoroly, and every spray was put on at the right time. The results, if nothing else, proved that. And furthermore, it just goes to show that you don't have to have a big power outfit to get the results.

Of course, you cannot expect to get out and clean up a forty-acre orchard with an atomizer, but you can very well take care of one tree with a little tin sprayer if you have the patience to climb all over the tree and get the spray dope on where it's needed. I say you could do it, but take a tip from me and get a bucket pump, or better yet, a barrel pump, if you start out spraying even two or three trees.

The fact is, up to two hundred trees a double-action barrel pump is likely to be the most practical solution of the spraying problem. I would be inclined to rig up the pump engine to the barrel pump tho for any over a hundred trees. When you have over two hundred trees it is time to think seriously about getting a power outfit of appropriate size, something to save time.

But enough about spray rigs. I just mention them to emphasize the fact that poor results in spraying are not likely due to the spray rig unless it is away too small in capacity to handle the job in hand, or fails to pump the dope. By all means have whatever equipment you use in topnotch condition before you have to make use of it.

The thing we have to think about right now to insure the season's success is the proper time of spraying, and the proper dope, and then of course, getting it on the proper place.

Thru my neighborhood in central Iowa four summer sprays will get control of practically all apple insects and diseases. Under unusual conditions it may take five. Down in the Arkansas valley in southern Kansas where I visited several orchards last fall, I met one man who said he sprayed seven times and figured he made money on every one of the sprays. But for middle western home orchards, I believe the same program that I use will get about as good results on apples as one can ask.

In the first place, let me say there is no scale in the few old trees I have. If there were I would have put on a dormant spray. As it is we use only the four summer sprays.

Our first spray is put on after the cluster buds expand, and before the individual blossoms have opened. In this spray I

use four gallons of liquid limesulphur and three pounds of dry lead arsenate to a hundred gallon spray tank. If dry lime sulphur is used instead of liquid about ten or twelve pounds would be called for. If there are plant lice, add three-fourths of a pint of forty percent nicotine sulphate to one hundred gallons of spray dope.

Then comes the second spray. I believe this spray is just about as important as any two others, season by season. It should be applied just as the last petals are falling from the trees. This time ten quarts of liquid limesulphur and two pounds of dry lead arsenate are called for in each hundred gallons of spray. If you substitute dry limesulphur use seven pounds per hundred gallons. Here, again, if plant lice are present, depend on the nicotine sulphate of the same dilution as before for control.

Just one piece of good advice about this second spray. Put

it on thoroly. This spray must go on while the calyx cups are open. That is why it is put on just as the last petals are falling. At that time bees are no longer working on the blossoms, pollination has been completed, and there are four or five days, sometimes less, during which the calyx cup at the blossom end of the tiny apple is still open. Your object is to drive a drop of poison spray down into that cup. Step up the pressure if you use a gun. Get the nozzle in close to the blossom clusters if you use a spray rod. Then the calyx will close and there the poison will be, on the walls of the cup, all ready for the venturesome larva of a codling moth when he starts into the apple. By

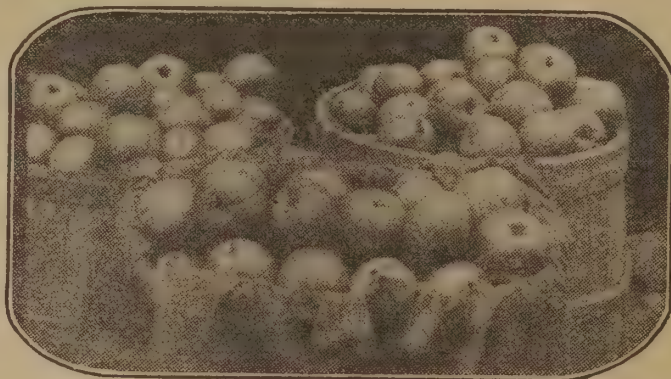
the way, it is claimed by people who have gone to the trouble of determining the fact, that ninety percent of the rascals try to go thru this blossom end of the fruit. You see the object of getting the poison into the cup now. It's merely a matter of making the way of certain transgressors not only more difficult, but fatal.

Now for the third spray. We put it on about ten days to three weeks after the second. You want about nine quarts of liquid limesulphur and two pounds of dry lead arsenate to a hundred gallons of water for this. See that the surfaces of the little apples are thoroly covered. Here you can substitute bordeaux mixture, 4-4-50, for limesulphur if you wish, and certainly it would be wise to do so if there is bitter rot and blotch to a troublesome extent.

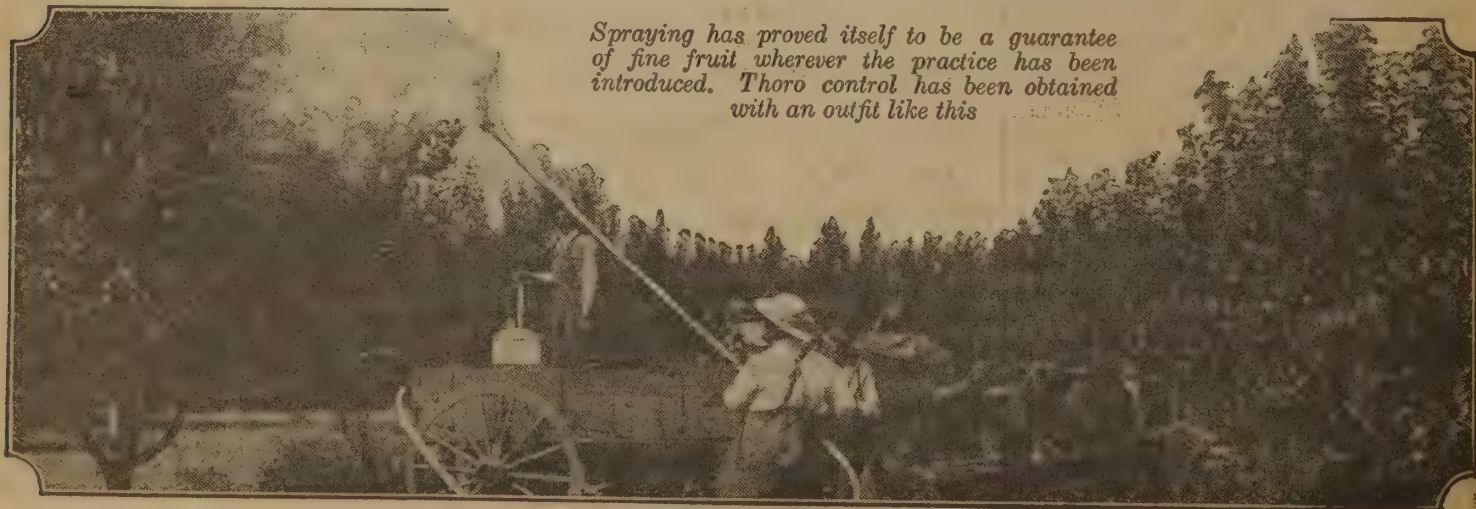
Finally, in late July or early August you can use eight quarts of liquid limesulphur or six pounds of dry limesulphur and two pounds of dry lead arsenate to one hundred gallons of water. Here again, where you can do so, it is a good plan to use bordeaux mixture instead of limesulphur. Of course it is not necessary to put this late spray on the very earliest maturing varieties of apples.

All the above is with regard to apples. It also applies to pears and quinces.

I also shoot the same spray onto plums, with the exception of the fourth, which is too late for plums. You see this is all right for all practical purposes in a home orchard, particularly where you may have only a tree or two. (Continued on page 44)



Fine clean apples like these to put away for next winter can be had only by controlling the insect pests and the diseases of the orchard



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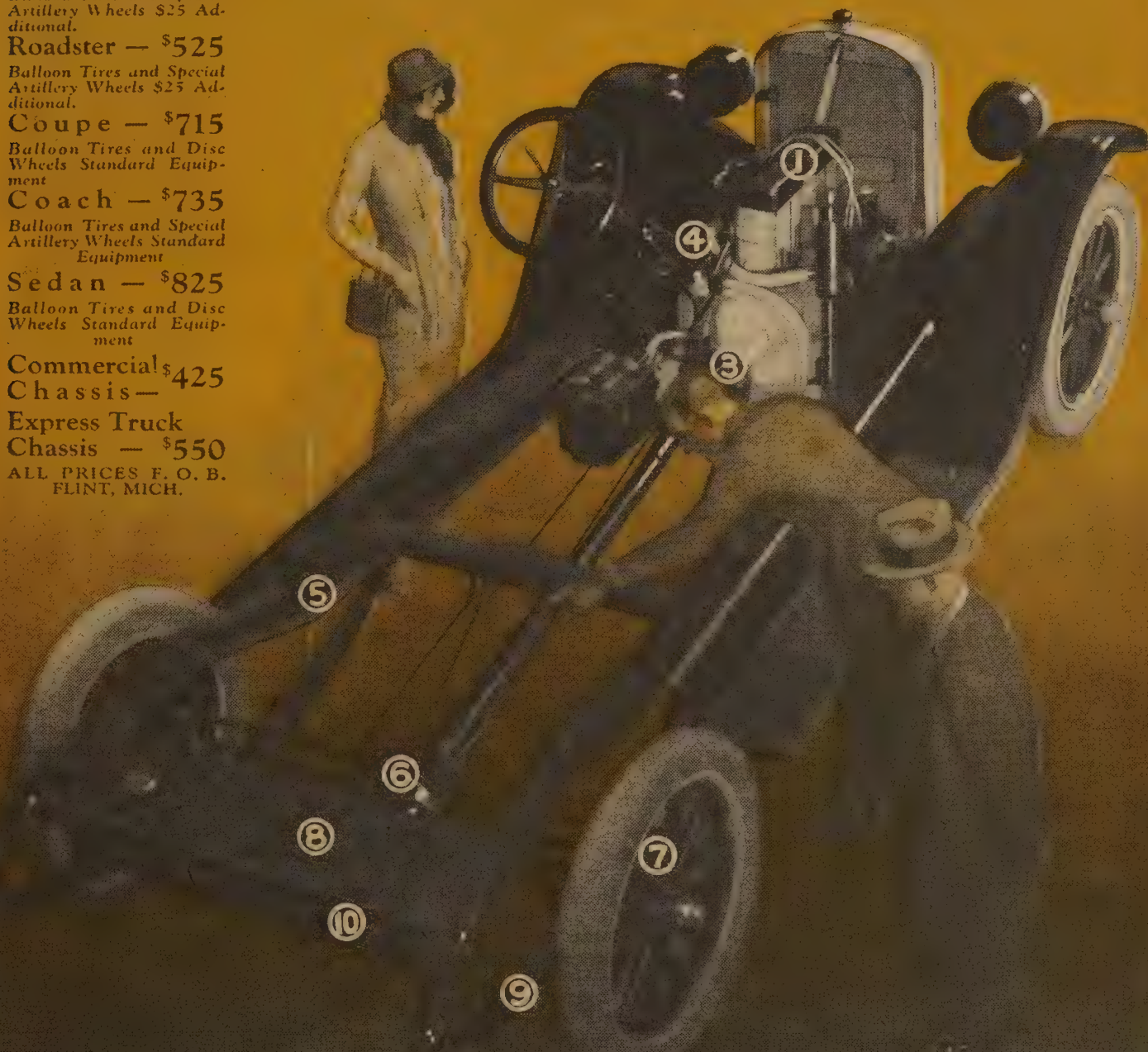
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132



A SPRAYRING SAVES MONEY

By pulling together, a group of farmers in my county are spraying their fruit trees for one-third less than the usual cost. Each man formerly sprayed his orchard by hand pump, or depended on someone to come in with the power outfit; but either method was uncertain, and the cost, including material and labor, ranged from seventy-five cents to a dollar per tree.

The problem caused much discussion, especially among the men who hired the work done, but in the spring of 1923 a plan was formulated which taught them the value of cooperation.

"Our aim was to save money for the man with only a few trees as well as the one with a large orchard," Lew Weber, the manager, told me recently. "And we wished to organize so that the members would not all be wanting work done at the same time.

"As a first step, we secured the efforts of three farmers with a total of 210 trees. Three additional members were then signed, and the man having the largest orchard was sent to town to arrange for equipment.

"A power pump and storage tank were bought for \$45, extra accessories and belt bringing the total to \$55.60. A second-hand engine was donated by a member, and the rig was mounted on a truck.

The first cost was proportioned among the three original members, according to the number of trees, and was listed as a standing account to be paid from custom work later on. Spray material was bought in bulk, and the amount being estimated by the number of trees, each orchardist could easily figure his expense from his acreage. This placed the man with ten trees on an equal footing with the one with fifty. Labor was mutually pooled. Since two leads of hose were used, the engine to operate, and the outfit to haul around, each member had something to do. If, for any reason, a man could not assist, he was required to furnish a substitute.

"The pump being of large capacity, it was found that a spray could be applied to every orchard in the ring in less than three days, a job which formerly required a week considering the time of all the men. A total of four sprays were given to each orchard, and after the season was over and the books balanced, it was found that the work had cost sixty-two cents per tree.

"And we noticed a marked improvement in the fruit because the power pump had put the spray where the old hand pump methods had never reached. So the job was thoroughly done when most needed, and there was very little wasted time.

"We used practically the same methods in 1924. Some custom work was taken on, four new members signed up, and all indications point to a still lower operating cost in the future."—F. R. C., Ohio.

PAID KAUFMAN TO SPRAY

In the potato producing sections of the country, a few potato growers have learned that it pays to spray. I say this because last year in the most intensive potato producing sections of Michigan, I found that not one-tenth of the potato growers spray regularly, generally being content with putting on a little arsenate of lead, or some paris green for the potato bug.

C. E. Kaufman of Elkhart county, Indiana, last year proved to his own satisfaction that it pays to spray potatoes for blight and bugs, especially when both birds can be hit with the same stone.

Kaufman had a patch of potatoes which he sprayed five times during the season. He used a power sprayer that covered four rows at a time and in order to find out

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whether the spraying was actually paying him or not, he left four rows, each three hundred feet long, without spraying. In the fall when the potatoes were dug, Kaufman found that the unsprayed rows yielded twenty-nine bushels less per acre than did the sprayed potatoes.

How much did it cost him to get this added twenty-nine bushels to the acre? Counting everything, cost of material, interest and depreciation on the sprayer, and labor, it cost him ten dollars an acre to spray. He traded ten dollars for twenty-nine bushels of potatoes.

Those who grow potatoes can apply local prices to see whether it would have paid them to spray. In most cases and most years, twenty-nine bushels of potatoes would amply pay one for this expenditure.

Kaufman used bordeaux mixture five times, a 4-5-50 solution, and whenever the bugs were bad, he mixed in one and a half pounds of powdered arsenate of lead to each fifty gallons of bordeaux. On the average, it took one hundred gallons of spray to go over each acre of potatoes.

The bordeaux mixture not only keeps off plant diseases, but it stimulates the yield by saving the leaves from the ravages of fungous diseases.—I. J. M.

MIXING THE SPRAY DOPE

Most all of us have our pet ways of doing things. I go thru a certain rigmarole in mixing up each tank of spray dope. I believe my method is founded on common sense, tho I have known other people to use quite different methods.

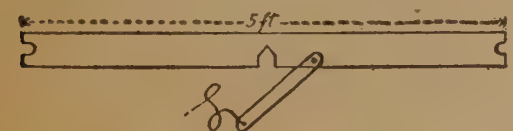
Suppose, first, I am using dry limesulphur and lead arsenate. I weigh out the lead and the limesulphur into separate buckets while the tank is filling. I then dump in the dry limesulphur while the agitator is churning the water in the tank and let it churn the limesulphur into solution while I bring the tank up to about four-fifths full. I keep the agitator going until the limesulphur is all dissolved. In the meantime, I have the lead arsenate all mixed with water into a nice thin whitewash. With the agitator still stirring things up within the spray tank, I add the lead arsenate and water, fill the tank full and drive to the orchard with the spray rig. The agitator should keep moving vigorously until the last gallon of the batch is pumped from the tank.

When I use liquid limesulphur I always stir in the lead arsenate after first mixing with water. Then, when the tank is nearly full, I pour in the liquid limesulphur, keeping the agitator on the move, of course.

With bordeaux and lead arsenate, I prefer to load the machines first with bordeaux, then add the lead arsenate after first mixing to a thin paste.

A ONE-MAN PLANTING BOARD

Herewith is a sketch of a one-man planting board that I have found very helpful in setting out trees, especially if



there is no one at hand to hold the trees while they are being set.

The notch or hole should be made large enough to receive trees of good size and when trees of smaller caliper are being set a wooden wedge fastened to the board with a bit of string comes handy. The board is used in the same way as the ordinary planting board but the wooden button which holds the tree in place is a decided improvement, it seems to me.—D. E. B.

Of all the fruit crops, grapes are the most insistent on pruning. You cannot expect a full crop of grapes without pruning.



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A Good Garden Is a Good Investment

Consider It from the Standpoint of What It Saves You

ONE of my neighbors dropped in the other evening and in the course of our talk he remarked, "Don't know what a farmer would do without his garden and cows and hens. They just about set the table around our place. The folks were just talking about it the other night when we were deciding what seeds to buy and what to leave out. Seems like our garden is just about the most profitable bit of farming we do when we come down to size it up."

He went on to say they put enough potatoes in the cave to run them thru the winter besides enough turnips, beets, cabbage, carrots, and so on. "And the women folks canned a lot, you know—beans and peas and tomatoes. They dried a lot of sweet corn too. Had plenty of apples. All this stuff and our butter and eggs and the pork we put up let us thru the year with a mighty small bill at the grocery."

Did you ever consider what a cracking good investment you can make out of a good garden? It's a downright dollar-saver for fair when you consider the way it saves you from opening the tin cans you might otherwise get at the grocery store.

The one drawback to the garden on the farm is the labor connected with it. But that is something that can be controlled to a great extent by the way it is laid out. Let the garden area be long and comparatively narrow, where that is possible, and you will be surprised how much the riding or one-horse cultivator will do. One of my neighbors has his garden near the orchard, and the other end runs up to the backyard. The fence takes in the first row of trees at the rear end of the garden, so he can turn the horses on sod at each end of his garden rows. When he comes in from cultivating corn he takes time sometime every week to run thru the garden with the riding cultivator. It takes comparatively little hoeing in that garden to keep it in tip-top shape. In fact, long rows help more than anything

to be in a mellow, loose, finely divided and moist condition. It is nearly impossible to get a garden soil too rich in fertility. I recall once when we plowed up an old barnyard, following a rearrangement of the premises, and the folks who had left the place the year before had piled up stable manure instead of hauling it out. There must have been twenty tons of the well-rotted manure. We took a road scraper and spread this fertilizer over the garden, followed this by deep plowing, and then, because the ground was not in the best of shape, disced it over and over until that

To get the best results a garden soil has

in such order that advantage is taken of the early removal of some crops to make way for later plantings of others. Planting dates are not given because the season of planting is dependent on the average frost dates in any particular locality where the garden may be planted.



Long rows, far enough apart, and horse-drawn implements, solve the labor problem

to be in a mellow, loose, finely divided and moist condition. It is nearly impossible to get a garden soil too rich in fertility. I recall once when we plowed up an old barnyard, following a rearrangement of the premises, and the folks who had left the place the year before had piled up stable manure instead of hauling it out. There must have been twenty tons of the well-rotted manure. We took a road scraper and spread this fertilizer over the garden, followed this by deep plowing, and then, because the ground was not in the best of shape, disced it over and over until that

You can easily adapt a plan such as this to your own particular garden patch. You may want fewer potatoes, more corn, more peas. That is just up to the family appetite.

HOW TO GROW EGGPLANT

For the sake of variety on the table and a real tasty dish, you should have some eggplant in your garden. The plant is easy to grow and the fruit is excellent. Not only that, but it makes a good crop for the market.

The seed should be sown in the hotbed, or indoors in a flat, about two months before you can transplant to the field. The seeds are somewhat hard to germinate, so prepare the soil carefully. Be sure that the soil is free from all weed seeds and so on, as it takes quite a while for the eggplant to come up. Sow in drills one-quarter of an inch deep. When the plants are two to three inches high, transplant them to small pots, or if these are not available transplant into another bed, giving plenty of space between the plants, we would say not less than two inches each way.

These plants are very sensitive to cold, every bit as sensitive, if not more so, than tomatoes, so harden the plants off in cold frames very carefully, and do not set them into the fields until all danger from frost is over. Set in rows about three feet apart, and about eighteen inches apart in the row. The best soil for the eggplants will be a good, deep, sandy loam soil which contains an abundance of humus. However, we have had them do very well on any soil that would grow good tomatoes. As early growth and a strong leaf development are important, nitrogen must be supplied in quickly available forms. A heavy application the previous fall of thoroly well-rotted barnyard manure usually puts the garden soil in first class condition for these crops. Where barnyard manure was not applied abundantly, it would be a good idea to work into the area about each plant a couple of ounces of high grade fertilizer. This would call for only one pound to each eight or ten plants, and it will be money well spent. Then a top dressing of about one pound of nitrate of soda to each twelve or fifteen plants would be a good idea as soon as the plants are established.

1	Asparagus	150'
2	Winter Onions 30'	Herbs 30'
3	Early Potatoes 150'	Herbs 30'
4	Same as Row 3	Herbs 30'
5	Early Potatoes 150'	Herbs 30'
6	Same as Row 5	Herbs 30'
7	Early Cabbage 150'	Herbs 30'
8	Onion sets	Herbs 30'
9	Early Peas followed by Snap Beans	Herbs 30'
10	Radishes in Succession Head Lettuce and Leaf Lettuce	Herbs 30'
11	Swiss Chard 75'	Herbs 30'
12	70' Early Carrots followed by Chinese cabbage Turnips followed by Beets 40'	Herbs 30'
13	Spinach followed by Late Cabbage 150'	Herbs 30'
14	Beets 150' followed by Late Cabbage	Herbs 30'
15	Beans 75' followed by Sweet Corn	Herbs 30'
16	Beans 75' followed by Sweet Corn	Herbs 30'
17	Beans 75' followed by Sweet Corn	Herbs 30'
18	Early Sweet Corn 75'	Herbs 30'
19	Early Sweet Corn 75'	Herbs 30'
20	Early Sweet Corn 75'	Herbs 30'
21	Early Tomatoes 150'	Herbs 30'
22	Late Tomatoes 150'	Herbs 30'
23	Cucumbers 120'	Herbs 30'
24	Lima Beans 150'	Herbs 30'
25	Peppers 120'	Herbs 30'
26	Sweet Potatoes 150'	Herbs 30'
27	Sweet Potatoes 150'	Herbs 30'
	Sweet Potatoes 150'	Herbs 30'

A garden layout all drawn on plan on paper will save time when it comes to actually making the rows and planting the seed

else to lighten the labor of caring for the garden.

A layout of the garden on paper will help materially in getting results. It's like building a house. A plan takes time and effort to prepare, but it saves much more than the same amount of time to build according to the plans.

Every piece of garden ground is something of a problem. I have to plant my side-hill garden according to a little different plan than the one used by a neigh-

bor on a smooth, flat piece of ground.

In spite of the late start this garden produced the summer and fall vegetables to perfection. So if you were not able to get the garden plowed in the fall, when it should have been, it is not too late.

The things you plant will be determined by the likes and dislikes of the family. On this page is a garden layout given as a typical example of a farm garden. The perennial stuff is over to one side, out of the way, you see. Other stuff is planted



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THE MOST PRODUCTIVE ACRE

ON the farm of Asa A. Miller in Cass county, Iowa, the most productive acre, as well as the one from which most pleasure is derived, is the acre devoted to the garden. It lies just west of the house, across the driveway that brings one to the farm, and it is protected on the north and west sides by a grove of large trees. This acre had already served as a garden for a number of years when Miller's father bought the farm more than forty years ago, and it has been the family garden ever since.

Altho the fenced-in area is exactly an acre in extent, strictly speaking the ground devoted to vegetables is somewhat less than an acre, for there are a number of peach and cherry trees on the north side, and a couple of rows of rhubarb on the south side which require very little care.

Here is what Miller raised in his garden last year, and it represents about what is raised every year: Early potatoes, sweet corn, peas, beans, tomatoes, cucumbers, cabbage, radishes, lettuce, beets, rhubarb, turnips, carrots, parsnips, salsify, cauliflower, melons, spinach, onions, asparagus and squash.

Successful Plantings Made

Only a few rows of early potatoes are planted in the garden; the main crop is grown in a larger field. The tubers are given the formaldehyde treatment for scab before planting. From three to four plantings of sweet corn are made, depending on the length of the season, a planting each two weeks after the first. Two varieties of peas are grown, and three of beans—green string, lima and navy. The onions include both the seed and the set varieties. The squash is the small individual variety, the larger kinds being grown in the fields.

From the time the first vegetables were ready for the table in the spring, the Miller family had an abundance of a wide variety of vegetables all summer, large quantities were given away to neighbors and relatives in town, and more than 300 quarts were canned.

Ninety-three quarts of sweet corn, cut from the cob, were put up, 75 quarts of tomatoes, 40 of beets, 40 of green string beans, and smaller quantities of other vegetables. Two bushels of dried lima and navy beans were stored in the vegetable cave. In this cave, which Miller believes is almost indispensable to him for the proper storage of fruits and vegetables, were also stored a nice supply of carrots, onions, turnips, cabbage and squash. At a conservative estimate, the vegetables canned and stored for winter use represent a value of more than \$100.

Miller lessens the work required to keep the garden free from weeds by making the rows long and sufficiently wide so that he can go thru with a team and cultivator. Weeds too near the plants for the cultivator to get them are picked by hand by the women of the family.

To keep a garden plot producing good crops of vegetables for more than forty years means that the fertility of the soil must be kept up. Miller does it with manure from the barnyard and chicken house, and he spreads it with the manure spreader.—W. C. M. Iowa.

SOW GARDEN HERBS

Every good cook knows the value of various sorts of herbs, used in her culinary efforts. In our home, when a favorite dish is started, we never find that some certain herb, called for in the recipe, has been previously used and we have neglected to order another supply.

All of the most useful herbs are raised right in our own garden, and we always have a plentiful supply of them. Most of them are perennials, and after being once established, require little or no care. They are planted much the same as any hardy vegetable, in rows two feet apart and thinned out till they stand eight inches apart in the row. Most of them require a very light covering of soil, but sage is an exception; it should be covered to the depth of about three-fourths of an inch. We find sage, horehound, dill, sweet marjoram, summer savory and thyme the most useful.

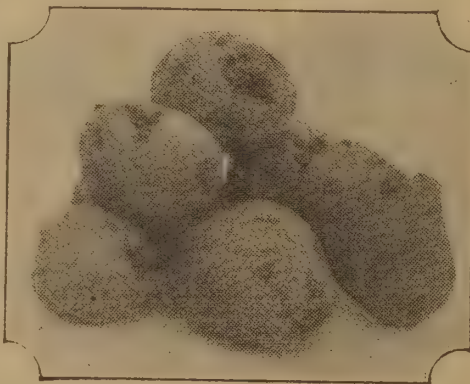
For years we have had two sage plants in our garden and they supply all the sage we—and several neighbor families—can use. It requires practically no care. It is quite hardy. As far south as the Ozarks sage needs no winter protection. We gather it while in blossom, and then it is spread out on a paper in the sunshine in front of an open window. When dry it is put in a can or bucket with a tight cover. Tea and coffee cans serve admirably for this purpose. Sage, unlike many leaves used for seasoning, is healthful, and a good nerve quietener.

Everyone knows the value of horehound in the treatment of colds and coughs. In fact, its medicinal qualities are quite marked. The leaves are gathered just before the plant begins to blossom. We dry them carefully in a dry room, and pack in a container that will exclude the air.

Dill is valuable for use in soups, but perhaps its greatest use is in pickles. Both the leaves and seeds are used in the pickles. The leaves are cut just before the seeds are ripe enough to fall. Dill is an annual, so has to be replanted each year, but it is very easy to raise.

Sweet marjoram is easily grown from seed, but may also be kept as a perennial. It is decorative. The leaves may be used either dry or fresh. They are not picked for drying purposes until the earliest blossoms have formed.

Summer savory may be used instead of parsley for garnishing. It is just as attractive and just as tasty as parsley. Both the leaves and the shoots are used in salads, sauces and soups. The leaves are not picked until the first blossoms begin to appear. This plant is also an annual.—N. P.



The right kind of sprouts

GREEN SPROUT YOUR "SPUDS"

Would you like to have the first potatoes in your neighborhood? If so, "green sprouting" will place early potatoes on your table a week earlier, besides giving you increased yields. "Four years ago our farmers first began greening their Early Ohios and Irish Cobblers. Then it was an experiment. Now ninety-five percent of them follow it as a regular practice. They have found that it gives them better stands and increased yields," writes N. I. Clunie, a county agent in southern Indiana.

Green sprouting late potatoes, usually beginning to sprout about the time the weather warms up, will save all their original vigor and vitality and be a large

factor in securing better stands of vigorous plants. J. B. Shively of northern Indiana greens enough for ten acres each year. "I find that green sprouting my late potatoes enables me to pick out any mixtures, as varieties have different colored sprouts and so can easily be detected and thrown out. Besides this, my stands have been better and the plants more vigorous since I started the practice. Hundreds of other growers have found that greening makes earlier potatoes earlier, as the ground is usually cold at early potato planting time, but the young green sprouts start to grow when placed in the soil.

The potatoes should be treated first and then spread out where they will get an abundance of daylight. Direct sunlight is not necessary, but daylight is essential to successful greening. Of course the



These sprouts are the wrong kind

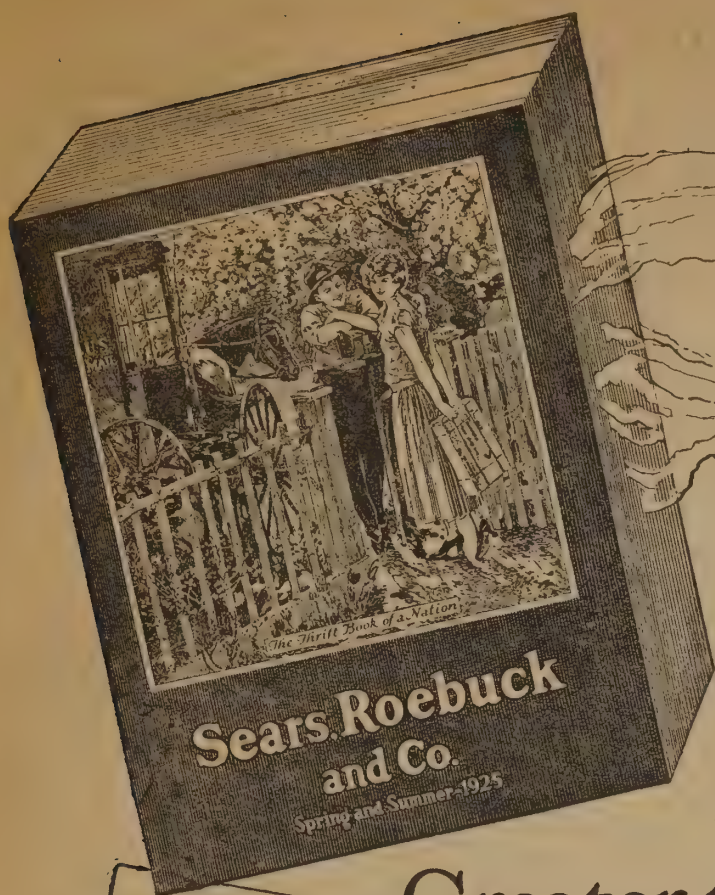
early potatoes must be placed where the temperature is above freezing. In two or three weeks tough green sprouts will grow, which will get about a quarter-inch long, when they will stop growing. Potatoes that sprout in the dark produce long, tender sprouts which weaken the tubers and are useless. The greened sprouts are so tough that even when planted in regular potato planters the potatoes lose few, if any, of their sprouts.—F. C. G.

COLOR SELLS THE APPLE

According to A. J. Stageman, a well known Pottawattamie county farmer and orchardist, it is color that sells apples nine times out of ten. Mr. Stageman has seen this theory worked out many times, according to his story, people selecting the highly colored fruit even in cases where the apples were not so good in quality or quite so large, to the exclusion of the larger apples which were dead in color, yet of better quality.

Of course, Mr. Stageman operates a commercial orchard, but his opinion is of interest to the farmer who has a surplus to sell. While the greens and yellows are unquestionably favored by many, and should not be omitted from the home or commercial orchard on account of color only, it is well to take advantage of the preference of the trade, and plant pretty largely to red, and the brighter the red the better the buying public seems to like it.

While we are on the subject, we might pass on another remark that Mr. Stageman made. He is a great believer in spraying, and caring for his trees, and he says in fact, that a man might as well try to raise good livestock without the use of a purebred sire as to try to grow apples without spraying and the proper care of the trees. He sprays his trees three times with a power sprayer, and the results he obtains are evident in that it pays him big dividends. The old trees on the farm have been bearing fruit for a quarter of a century and are still going strong. He has about four acres of trees that he set out four years ago, and last year he planted about 250 more apples trees. That shows the confidence he has in the future.



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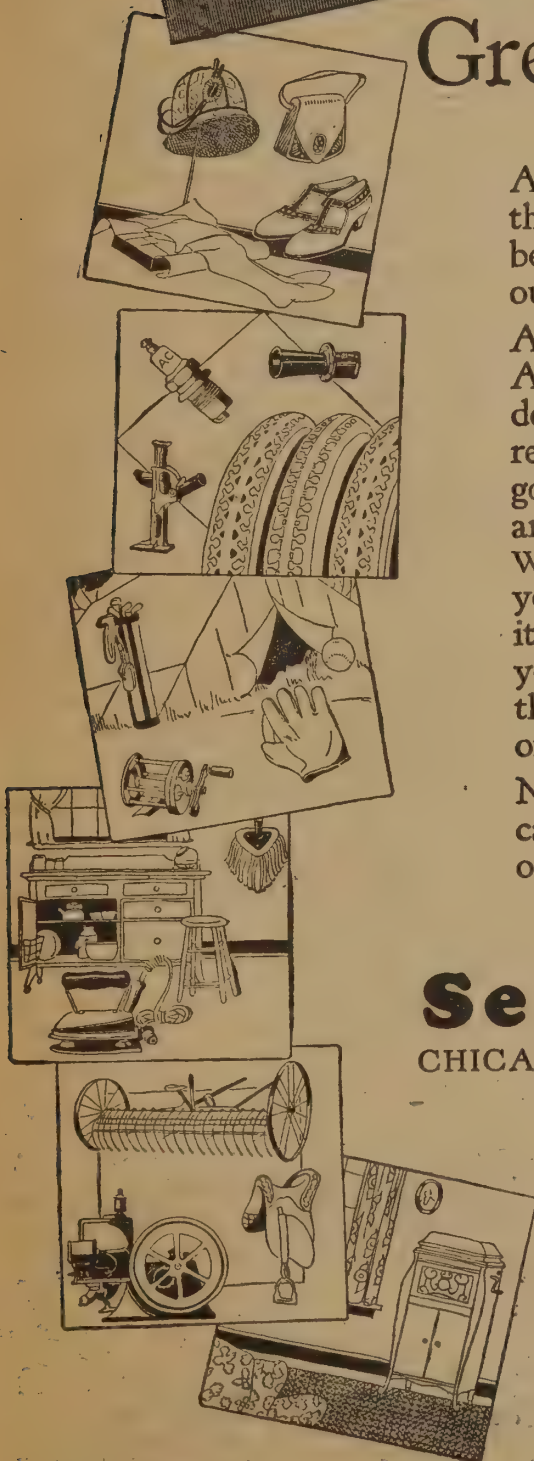
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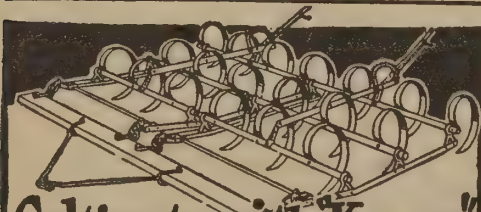
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HAVE YOU PRUNED YOUR RASPBERRIES?

On raspberry patches of any considerable size, it would be a pretty wise idea to begin pruning right away in order to get the work all done before the buds commence to swell. Of course, if you have only a comparatively few plants and can rush thru the job without much trouble, you can wait until the buds commence to swell.

The pruning of the blackcaps will consist in the removal of all old, dead wood which fruited last year, and cutting back of the new wood. The amount to cut back will depend on how your canes were treated last year. If the new shoots were summer pruned when they were about two and one-half feet high, there will be several lateral branches now. The wood that is to produce the crop this year should be pruned so as to give the picker easy access to all fruit. The size of the berries will be increased by cutting back. The next thing to do is to cut off the lateral branches to a length of from eight inches to a foot. Canes that were summer pruned will have as many as three to a dozen lateral branches, and sometimes more. If the canes were not summer pruned, they probably have grown out to six or eight feet in length. In this case, cut the canes back to four or five feet. The small patch could well be staked or trellised to carry the canes of this length. Where canes are summer pruned usually the stakes or trellises are not necessary.

CLEAN FRUIT IS A MATTER OF PEST CONTROL

Continued from page 36

of plums. I also give the cherries the first two sprays, and even the third when the cherries are only the size of good big peas at the time it is applied. If you have a commercial plum or cherry orchard you will, of course, be following to the last detail some spray program worked out for these trees. I find the above plan simple and effective in a mixed home orchard, and it will also work on other farms where there is some variety of fruits.

Just a word, tho, about peaches. Do not try the boiled or commercial lime-sulphur on them except in the dormant spray. Peaches should be sprayed just a little after blooming when the fruit is bursting the shucks. Use two pounds of dry lead arsenate to a hundred gallons of milk of lime made up from four pounds of fresh lump lime. Two or three weeks later apply two pounds of dry lead arsenate in a hundred gallons of self-boiled lime-sulphur. If brown rot is pretty bad it would be a good idea to apply self-boiled lime-sulphur to the late peaches about a month before they ripen. Early ones do not need this latter spray as a rule.

A lot of people who have a few grapes are wondering why the berries rot and also mildew, if their questions are any indication. A proper spray program will prevent this trouble.

When the first leaves are one-third grown apply bordeaux mixture 4-4-50 and dry lead arsenate four pounds to a hundred gallons of bordeaux. Add two gallons of cheap molasses. Just before the blossoms open apply the bordeaux mixture as above, and three pounds of lead arsenate and two gallons of molasses to one hundred gallons of bordeaux. Just after the fruit sets repeat spray No. 2. This third spray is the most important single spray of the whole bunch, so if you can put on only two or three be sure one of them is this particular one. Then apply a fourth and fifth spray at intervals of ten days to three weeks after the third. You can leave out the lead arsenate and molasses if the insects



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such as flea beetles, berry moth, curculio, and rose chafer are not abundant enough to harm.

There is no use losing a crop of currants or gooseberries because of mildew or worms. Limesulphur at summer strength as for apples or bordeaux applied when the leaves first appear and at intervals of two weeks thereafter until the fruit is half grown will control mildew. Add two pounds of dry lead arsenate to one hundred gallons of spray and you can control the currant worms at the same time. If plant lice or aphids show up give them a dose of nicotine sulphate at the usual strength on the first appearance of the pests. If worms appear after the fruit is half grown use fresh white hellebore instead of lead arsenate.

I saw a patch of raspberries pretty badly chewed up by worms last summer. If you see any evidence of the arrival of the worms among your raspberries use a pound of dry lead arsenate in a barrel of water and cover the upper and lower surfaces of the leaves thoroly. That is, use lead arsenate up to the time the fruit sets. After the fruit sets use white hellebore.

Coming down to the actual application of sprays I think there are about two points that can hardly be over-emphasized. The first of these is throness. The second is timeliness.

You simply have to be thoro. I like plenty of pressure. Remember, very high pressure is not an essential, except with a spray gun. With a spray rod and moderate pressure you can thoroly cover a fruit tree. You can force the spray right into the blossom clusters and the little calyx cups. With a spray gun and a lot more pressure you can do the same job a lot faster, and by the way, use more material doing it. With a spray gun going full blast you can waste a lot of dope if you are not on the job every minute. In the hands of a man who knows how, they do the work. By all means, remember to put the dope on at the right time.

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We live on a large farm. There are four small towns within marketing distance, the largest and farthest being ten miles away. Their population ranges from six hundred to two thousand.

We had to have a garden for our own use, so we added more space and worked the ground with machinery. We easily produce a good supply for market and seldom have any trouble in disposing of our extra vegetables. We use a truck, made at home from an old car for transportation.

We have great faith in printers' ink as a market medium, and advertise straight thru the season. People must eat and canned food is always expensive. Fresh vegetables of fine quality have a strong appeal. They usually sell better from a truck in the early morning hours. We sell some better from house to house. Others are bought mainly by people who come to the farm in their own cars, and this kind of marketing is oftener done in the evening.

We do not offer inferior products, and our main profit comes during the ten days or two weeks time that we can beat the other fellow's garden, and then we get good prices.

Early potatoes are good sellers, tomatoes, sweet corn and melons are the best, beets next perhaps. There is always a demand for asparagus, and cucumbers are sure sellers, for both slicers and pickles. We make large dill pickles and they always sell well. Any vegetable will sell if it is early enough. In the fall we ripen nice tomatoes in a sunny room after frost, and sell up to Thanksgiving.

Gardening is more profitable with us because our stock eats the unsalable and excess products.—A. W. N.



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Our Junior Farmers and Club Department

Devoted to the Interests of Farm Boys and Girls

Conducted by E. N. HOPKINS

GIRL IS CHAMPION FEEDER

THE Illinois junior state champion steer feeder for 1924 is Ruth Bumgarner of Putnam county. She is fifteen years old and this was her second year of feeding work. Ruth not only beat her own brother, but won an honor usually carried off by the boys. Her story is interesting and full of good information.

"The calf I selected was a medium-sized animal possessing all the qualities of a good Hereford, namely a broad back, good loins, short neck, a well shaped head and horns of medium length. His color was dark red and he had a white face and crest and also white on the under parts. He was very tame and I washed him several times with no difficulty at all.

"As my brother was feeding two calves for the calf club, we kept them together. During the first months of the feeding period, we kept our calves in a pen in the cow barn. Then when the weather turned warm, we let them out in a small dry lot for exercise. About the first of June we moved the calves to the barn. During the day they were kept in darkened stalls and fed fifteen pounds of corn and three pounds of linseed oilmeal. At night they were allowed to run on pasture. We continued this for about a month, but as the calves would not eat their grain and failed to gain in weight, we turned them into a dry lot at night instead of the pasture.

"At the first of the feeding period my calf weighed 480 pounds. He ate nine pounds of corn, fifteen pounds of silage, seven-tenths of a pound of oilmeal, one pound of oats and one of molasses feed and also four pounds of clover hay each day. When the contest closed he weighed 955 pounds and consumed sixteen pounds of corn and two pounds of oilmeal and all the clover hay he could eat."

YOUNG GARDENERS

Harry Warnke and Sylvia Bretoi of Dakota county, Minnesota, represented their club at the state meeting of the Minnesota Horticultural society. Their



expenses were paid for almost a week. They are both thirteen years old.

Warnke cultivated his garden fourteen different times. He planted his first seed May 2nd and gathered radishes May 25th.

STATE CORN CHAMPION

An average yield of 81.41 bushels of dry corn to the acre on a five-acre plot made William Lord, a fourteen-year-old boy of Redwood county, Minnesota, the state junior champion in 1924.

Lord believes his success is due chiefly to the fact that he planted 100 percent tested seed on fertile soil that was well prepared. The crop was cultivated four times. After saving twenty bushels of seed corn, the crop of both common and seed corn was valued at \$427.05. Cost of production reduced this to a net profit of \$382.35.

Ray Johnson of Rice county was re-

serve champion and first in single-acre event in the central section with a record of 84.63 bushels per acre.

Lee De Griselles, Pipestone county, won first prize in the acre contest in the southern section. His yield was 78.58 bushels.

Joseph Kopecky of Polk county won first in the northern section on the acre contest.

USES HIS MONEY TO HELP SISTER

Floyd Du Toit, a club boy who lives in Tama county, Iowa, was a member of a sow and litter club the past year. He not only made a financial success of his enterprise, but put the money he won into a constructive, admirable piece of work.

Floyd purchased a purebred, tamworth sow in March, 1924, which he paid for himself out of his savings. This sow farrowed nine pigs from which he raised four gilts and four boars. To start with, Floyd nominated and qualified this sow in the register of merit.

Along with four others, Floyd took his litter of pigs to the Iowa state fair and



showed them in the Tamworth pig club. His boars placed first and second, his gilts first and second and his litter first in competition with litters shown by sixteen other boys. He won \$80 in premium money and sold one boar pig for \$37.50. He then purchased City Edge King 1st, fourth prize junior boar pig in the open tamworth class at the Iowa state fair, for \$75. This boar was grand champion at several Iowa county fairs this year.

Floyd returned from the Iowa state fair and showed his litter of pigs at the Tama county fair where he won first in the pig club classes and also in the open classes, winning \$46. This made a total of \$163.50 that he has won in premium money and the sale of one pig.

The Du Toit family live in the country six miles from town and their home is situated a mile and a half from the country school. Floyd and an older sister, having completed the rural school, are now both attending high school in town, driving back and forth. A younger sister, who entered the eighth grade this year, would have had to attend the rural school and would also have been alone in her class. But Floyd, realizing the advantages of the town school and rather than to have his sister go to the country school alone, has brought her to town and is paying her tuition, which amounts to \$63 for the year, out of the money that he won with his pigs.

This particular example of a pig club member of the Tama county sow and litter club is a good illustration of what club work is doing to encourage boys in growing better livestock and establishing the right spirit in the progressive upbuilding of the younger generation. With such an example as this, pig club work should have the endorsement and encouragement of everyone.—Z. R. M., Iowa.

CORN GROWER AND LEADER

Since 1917, when he was eleven years old, Ford Mercer of Lincoln county, Oklahoma, has raised 1,164 bushels of



Ford Mercer

silvermine corn with an acre average of 46.5 bushels. The county average is 19.4 bushels. Furthermore, he has developed a strain so good that nearly 800 farmers and club boys over his county are now growing corn from this highly improved variety. Before 1920, only degenerate, mixed corn had ever been raised. Ford has

also raised more than 300 chickens during two years of that time and produced 11,000 pounds of pork during five years. At the same time he has made himself the outstanding club worker and leader in his county and state. More than 200 club members have been enrolled thru his efforts.

During a considerable portion of the time, Ford was out of reach of organized club work and had to go his way alone with what help his teacher and the county agent could give him. Not until his success was made with corn did his father offer him any encouragement. A trip to the International Livestock Show at Chicago last fall was the crowning reward for his years of hard work. His story is an inspiration for any boy or girl.

How He Raises Corn

"First find a variety suited to your soil and climate," says Ford. He developed his strain of silvermine by patient ear to row planting and selection. His corn ground is plowed in the fall to save moisture. In the spring a fine, deep seedbed is prepared.

As soon as the corn comes up, Ford is after it with a cultivator to keep ahead of the weeds and to save moisture. "Cultivate as deeply as possible and close to the corn the first time," he says. "This opens up the soil so the roots can spread and penetrate. The second time over the field, the plow is kept farther from the hills to avoid tearing up any roots. Subsequent plowings are for the purpose of maintaining a dust mulch and preventing weed growth. Therefore, they are shallow."

Last year Ford fought with chinch bugs and grasshoppers. Then a dry spell seriously reduced his yield yet he harvested thirty bushels per acre. Fortunately for him, the chinch bugs landed in his father's corn first. Then the grasshoppers held their annual convention and Ford says he had to board them. He immediately fixed up a bran mash with paris green and sweetened with molasses. A helping of this mixture every morning threw thousands of hoppers into fatal fits of indigestion. Every other afternoon the corn was sprayed with arsenic. In a short while the hopper convention closed because all the delegates were dead.

The seed used came from Ford's breeding plots and showed a 90 percent germination test. Had it not been for the pest, and the dry weather, he believes the yield would have been twice as large.

A flock of 187 ewes made \$2,000 for William Ash, Kittson county, Minnesota, last year. He grows sweet clover for both hay and pasture.



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OUR UNPAID HELPERS

IT seems scarcely possible that there should be laborers of any kind who will work willingly in the interest of the farmer, without expectation of pay in any form. But there are such laborers, thousands of them, who sweep north every spring in a vast tide that fills field and orchard with an array of energetic workers who ask nothing in return except, perhaps, to be unmolested. All of our bird friends are



Robin redbreast

not migratory however. The bob white, the cardinal and the sparrows are winter residents and remain to work thru the winter after other birds have left for their southern homes. It is a singular fact that many cardinals and quails round out their entire lives within ten miles of their birth-place.

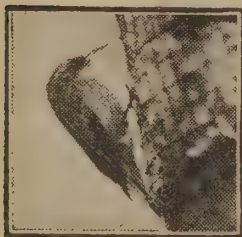
It is well known that birds render great aid to the farmer by destroying injurious insects and harmful weed seeds. It may be interesting to know just what insects are destroyed and what birds are most valuable to agriculture.

The quail ranks first in importance, he being one of the farmer's best friends. It gleans day after day many kinds of weed seeds and harmful beetles, among which are the striped cucumber beetle, squash and potato bugs, leaf beetles, cutworms and click beetles, which are wire worms in an advanced stage of development.

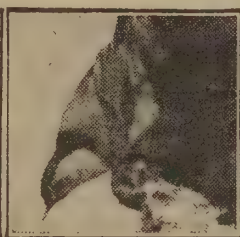
The downy woodpecker and the yellow billed cuckoo are very valuable visitors to have in the orchard. The downy woodpecker's food consists of boring beetles, weevils, caterpillars, ants, aphids, eggs of insects and imagoes of night moths. He is especially destructive of apple tree borers and codling moths. The yellow billed cuckoo tears open the nests of the tent caterpillar and devours the caterpillars, besides many other orchard insects.

The sparrow family is noted for its destruction of weed seed altho it consumes countless numbers of insects.

Common old robin redbreast has a long list to his credit, and unfortunately some



Brown creeper



Nuthatch

things that must be marked against him. He cannot resist the temptation to invade the cherry tree and to partake of some of the other small fruits. But when we consider the amount of good he does, we can readily forget the cherries. Robins eat white grubs that feed upon the roots of hay, grass and strawberry plants, grasshoppers, crickets, ants, moths and army worms. Who has not seen a robin hopping rapidly across the garden, stop abruptly and scan the ground intently, assuming a listening attitude, then speedily unearth a worm or bug. The robin is said to consume his own weight of insects every day.

The flicker is a useful bird destroying untold quantities of ants. Many kinds of ants are decidedly harmful as they attend, protect and help to spread plant lice which are among the greatest enemies to garden plants, shrubs and trees. These lice or aphids the ants keep as cows to nourish the young ants with their green, sappy

milk. Ants also infest houses and cause the housewife a great deal of worry.

The catbird and brown thrush destroy various insects among them notably the cutworm.

Being an inhabitant of the overgrown edges of old pastures or the bushy fences of clearings and roads, the indigo bunting or indigo bird is in a position to do much good, which he does in the destruction of countless weed seeds and insects.

The blue bird eats the berries of poison ivy, cedar, honeysuckle and bittersweet. The food of the young blue bird consists almost entirely of insects.

From the above facts, most of which are well known, it can easily be concluded that these guardians of the fields and orchards merit every protection that we can give them. We can pay these toilers and in a coin that they will appreciate. The best way to do this is to suppress their natural enemies. The crow is perhaps the greatest of these as his superior size, intelligence and ruthless nature enable him to prey upon them at will during the nesting season. The domestic pussy cats that go wild are a real menace to the songsters, as are also the hawks and owls.

During the most severe part of winter, there is often a deep snow on the ground



Flicker



Cardinal

and a hard freeze comes or a sleet, making an unbreakable crust, thru which it is impossible for the quail to break its way. If some grain or other suitable food is not provided, these helpless birds often perish in large numbers.

The cardinals and sparrows are not, as a rule, as hard put during the winter as the quail, being able to subsist on the smaller weeds whose seed bearing tops remain above the snow.—V. M., Ind.

LEADS POTATO GROWERS

Milton Tonn, Koochiching county, Minnesota, is the state potato champion for 1924. His patch yielded at the rate of 608 bushels. He is only twelve years old. John W. Ward of the same county produced 636 bushels of cobbles and russets, but he won two years ago and was barred this year. Romanzo Palmer of Hennepin county produced 571.6 bushels of Green Mountain potatoes on one acre.

RAISED AN ACRE OF CORN

Sixth Prize Letter

I wish to enter the junior contest and hope to win a prize. Last spring my brother and I decided to plant one acre of corn. We selected our ground in a small branch bottom where the soil was fertile. We first cleaned the ground of sprouts then had it turned and disced. We selected the large, white, silver mine corn for our seed.

Then we marked the ground off in rows about three feet apart and drilled one grain about every eighteen inches apart and covered it with a hoe. In two weeks the corn was ready for work. We plowed and hoed it, then in ten days we plowed and hoed it again. When it was about shoulder high, we gave it the final plowing.

When the corn was ready to cut, we cut it. It made twenty-four shocks which

made thirty-six bushels of corn when gathered. We hired papa to do what work we could not do ourselves. The fodder paid papa for his work. We have the corn which is worth \$36 left for us.

I am eight years old and in the sixth grade. My brother is six years old and in the second grade. Mama takes *Successful Farming* and we like it very much. I always read the junior club department first.—Weldon and Verna Burnett, Ozark county, Missouri.

WINS TRIP WITH SEWING

Second Prize Letter

I am a 4H club member and think club work is one of the best and most wholesome things for all boys and girls. Since I had won fifth place in first year sewing when it was exhibited at the county fair in 1923, I had a greater desire to hold a higher place in the county last year. So I set forth to try to make the best better.

The first article we made was a clothespin apron. The one I made was of unbleached muslin bound in white tape. Instead of making the belt of cloth, I made one of tape and hemmed the ends.

The next article was a nightgown made of white cambric and trimmed with novelty edging. When making this, by mistake I put the braid on the wrong way and our leader wrote to her adviser and found that if I wanted to stand any show for the prizes, I must change it. The leader urged me on by saying that I was doing fine and made me realize that if I wanted to make the best better I must change it, so I did.

The next article to be made was a choice between bloomers and drawers. I chose the latter as I did not like putting in rubber. The first mistake I made was in basting the wrong seams together. I found they looked more like drawers when the seams were changed, so I again began to rip up my work.

During the summer, we were required to darn a stocking for fair work, also three pairs to be judged by our leader. I managed to find the smallest holes possible for the ones the leader judged. A larger one was to be darned for the fair. I found one and started in on the tedious work. In about one hour I had it finished and it seemed to me as tho the one hole had been multiplied by six.

With my sewing and darning all done, I filled out my record book and wrote my story. Exhibition time came and the leader took my work to the fair. She returned with my pass which looked good to me.

Saturday noon came when the prizes were to be given out. I had intended to be there at that time but arrived about one-half hour late and, to my surprise, I was told I had won that blue ribbon which means so much to all club members and is received only by a few.

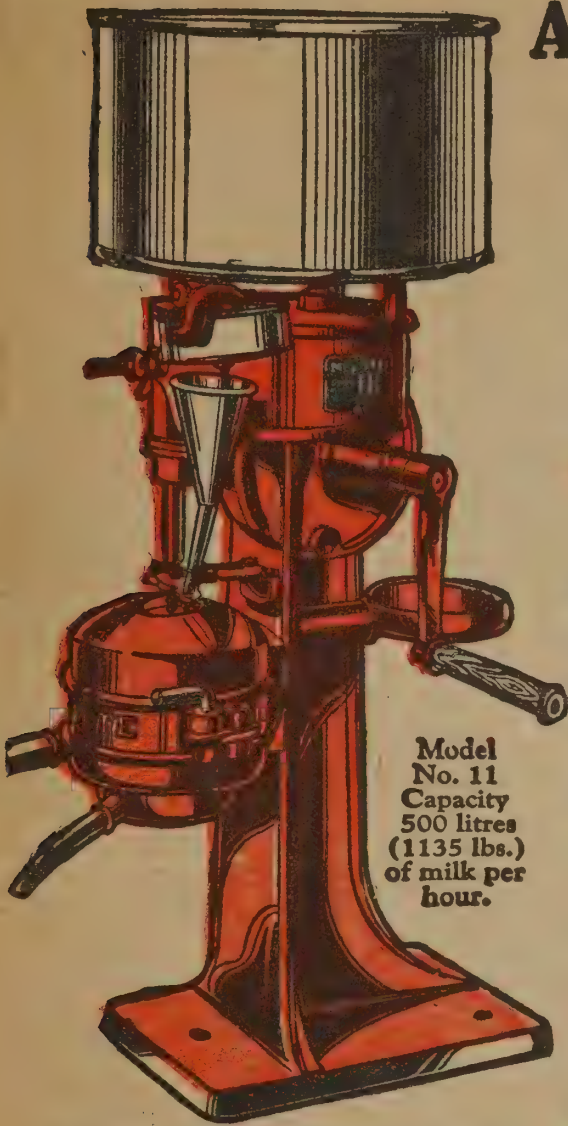
Our county agent, Mr. Fieldner, then explained to me the Columbus trip which went with first prize. He said we would start from Bryan, Ohio, on November 17th.

In our meetings held there, I found that club work meant something more than just a prize and ribbon. It some day might be the means of me being a useful club leader and citizen in my own community. Thanks to the people who have started this 4H club work.—Irene Raymond, Williams county, Ohio.



Irene Raymond

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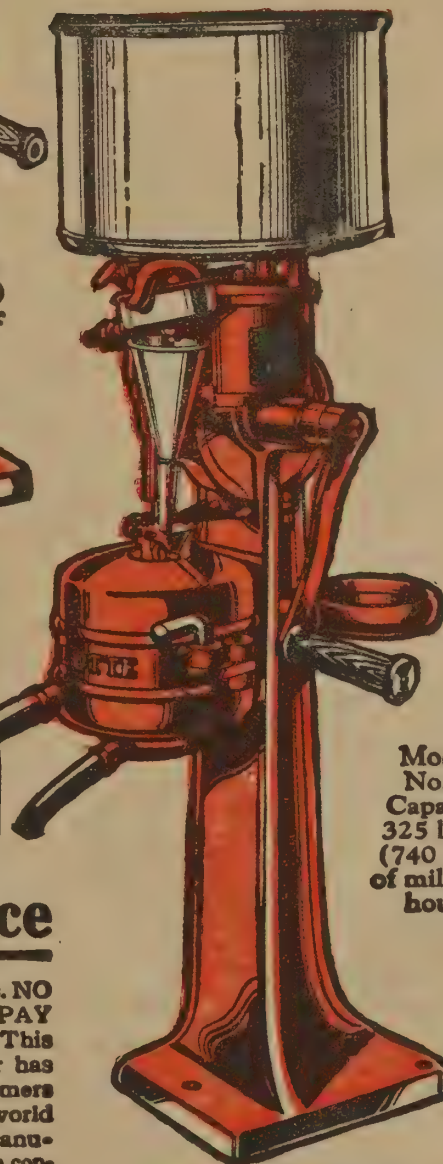
We will send an imported Belgium Melotte Cream Separator direct to your farm and you don't pay us a cent for 4 months. We make this offer because we know there is no other separator in the world equal to the Melotte and we want to prove it to you. Use it just as if it were your own machine. Put it to every possible test. Compare it with any or all others. The Melotte is easy to keep clean and sanitary because it has only one-half the tinware of other separators. Turns so easily that bowl spins 25 minutes after you stop cranking unless brake is applied. No other separator has or needs a brake.

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HAS TWO-SPEED GEAR
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WHAT I DID WITH 25 CENTS

Fifth Prize Letter

I am a boy twelve years old. I live in the country and like to read *Successful Farming*. One of our neighbors always gives ten cents to the first one in her house on New Year's day. I was the first one there and she gave me the dime. Her sister gave me a dime and a little orphan girl she was raising gave me five cents, making me twenty-five cents in all.

I then started out to see how much I could make in a year. I bought twenty-four Rhode Island red hens' eggs and set them in an incubator the last of January and hatched and raised twenty chicks. I had a coop and kept them in it till they were big enough to run out in the yard. I fed them when they were little, bread and buttermilk and when they were bigger, I fed them oats and corn. When they were fryers, I sold them and got fifty cents apiece for them.

Then I bought a pig from my uncle for three dollars and put seven dollars in the bank. The pig weighed about fifty pounds. I fed it corn and skim milk and in November it weighed about 400 pounds. I traded her to papa for a heifer, and she soon gave milk and I sold her calf for \$6 and have the cow now. With the money I bought me a new suit and a cap. I am planning to raise chickens next year.—Clifford Andrews, Texas.

INDIANA JUNIOR CLUB CREED

I believe in boys' and girls' club work for the opportunity it will give me to become a useful citizen.

I believe in the training of my head for the power it will give me to think, to plan and to reason.

I believe in the training of my heart for the nobleness it will give me to become kind, sympathetic and true.

I believe in the training of my hands for the dignity it will give me to be helpful, useful and skillful.

I believe in the training of my health for the strength it will give me to enjoy life, resist disease and make for efficiency.

I believe in the great trinity of club work—the home, the school and achievement.

I believe in my country, in the state of Indiana and in my responsibility for their development.

In all these things that I believe, I am willing to dedicate my service for their fulfillment.

NATURE STUDY READING

For the price of a postage stamp and the trouble of writing a letter, any boy or girl can obtain some very interesting bulletins that make the many forms of wild bird and plant life about us deeply interesting. Ask the United States department of agriculture, Washington, D. C., for any of the following in which you may be interested. Bird Houses and How to Build Them, farmers' bulletin 609; Birds Useful to the Farmer, farmers' bulletin 630; Attracting Birds in the East Central States, farmers' bulletin 912; Plants, Collecting for Study, farmers' bulletin 586; Insects, Collecting for Study, farmers' bulletin 606; Fifty Common Birds of Farm and Orchard, farmers' bulletin 513.

There are also many state bulletins on bird and plant life available to residents. Write your state experiment station for their list.

Hundreds of good books have been published on bird, plant and insect life. The following have given very general satisfaction. Bird Guide by Reed; Flower Guide by Reed; The Tree Guide by Rogers and The Butterfly Guide by Holland. Any of them may be obtained thru the *Successful Farming* book department for \$1.50.



POULTRY WINNER'S STORY

Edwin Calvin, an Indiana boy fifteen years old from Morgan county, has some good pointers for our Juniors who are raising poultry this spring. Edwin won first in poultry club work at the Indiana state fair last fall. The eggs he was raised from were obtained from the state agricultural college and cost ten cents each. We will let Edwin tell his own story.

"The eggs arrived on March 24th. I did not have an incubator at home so I bought one and set 94 of the eggs in it and set two hens with the rest of the eggs. I hatched 69 strong chicks on April 18th, 19th and 20th.

"Last year at school I made two brooder coops according to Purdue specifications. These coops accommodate two hens each. I had two broody hens when the chicks hatched. I used these and the two other hens that had hatched part of the chicks to brood the chicks.

"For the first week I fed the following ration: corn bread and boiled egg ground in a food chopper five times per day and kept sour milk and commercial mash before the chicks all the time. When all the infertile eggs from the incubator were finished, I fed fresh eggs. After the first week I fed a commercial chick feed instead of the corn bread and eggs.

"I discontinued the sour milk when the chicks were two weeks old. I fed the same mash for the first five weeks. Then I fed my laying hens mash which I mix myself using one part meat scrap, one part bran, one part shorts and one part corn meal. I kept this mash in the little chicks' hopper. Every time I filled it, I weighed out what I put in the hopper and recorded the weight in my poultry club book. The cost of the mash, figured according to the feed price list, is \$180 per hundred. I used the price list in my feed record for everything except the commercial feed and wheat.

"In all fifteen of the chicks died. I killed a crippled one and one that was not thrifty. I also killed a cockerel to eat. This left 51 chickens on August 28th. Their total weight was 167 pounds. On one occasion I noticed that my chickens were not roosting in one of the houses. Upon investigation I found the house to be infested with mites. I got a paint brush and some kerosene and put kerosene in all the cracks and crevices. This killed the mites and the chickens roosted in the brooder coop again.

"I now have the following breeding birds: two leghorn cockerels, 11 Plymouth Rock cockerels, 7 leghorn pullets and 22 Plymouth Rock pullets. I have sold all but one of the cockerels for breeding birds at \$1.50 each. In addition to the above breeding birds, which I have valued at \$1.50 each, I have 9 Plymouth Rocks which I have valued at the market price in my inventory.

"My ten Plymouth Rock cockerels which I sold averaged four pounds each at four months of age. The cockerel that I kept weighs five pounds or a little more. I will put him in a breeding pen with ten of my best old hens. I will keep my pullets in a house by themselves and keep a record of them in connection with my poultry work."

SELLS CHICKENS

I will write you in regard to my chickens. I have raised thirty-nine out of fifty and they will weigh three and one-half pounds now. I am feeding them whole corn, buttermilk and bran mash. I have sold two of the cockerels to a neighbor for breeders. I want to sell all the cockerels but two. My mother gave me some Plymouth rock chickens I am going to sell when they are old enough.

Am sorry to say I haven't a good picture of myself and chickens but I will keep on trying. As soon as I get a good picture, I will send it in. I thank you many times for helping me like you have.—Mildred Pearl, Reynolds county, Missouri.



Eye of Plumb Axe cut away to show Plumb Patent Take-up Wedge. A turn of the wedge tightens the handle against all sides of eye, all the way in.

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Red Handle

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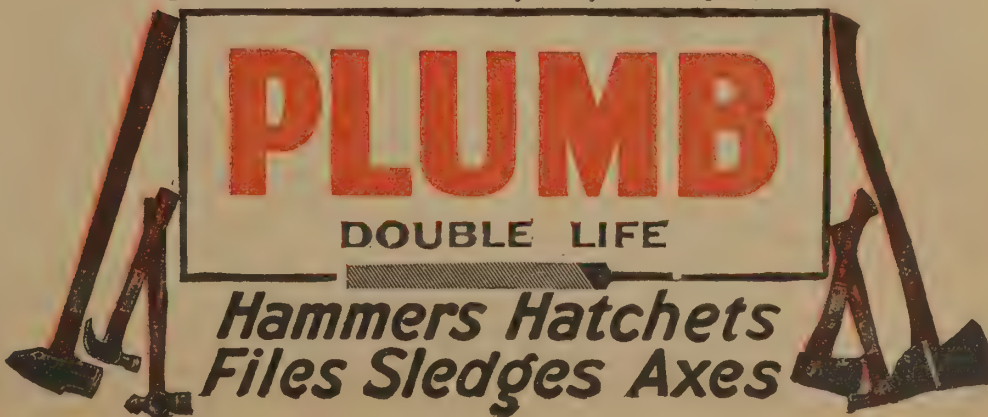
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double bit, \$3 (except in Far West and Canada).

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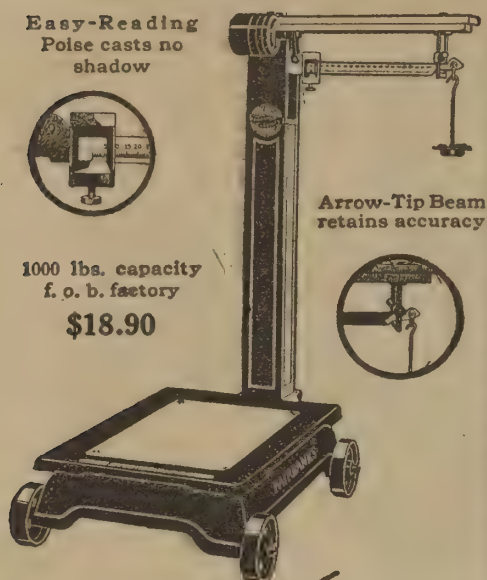
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DISEASES THAT REDUCE CORN YIELD

Continued from page 5

replanting was necessary. The test rows of disease-resistant corn selected in the culling schools grew regardless of the weather. "You can tell fields and tell to the row where farmers have taken part in the corn improvement work," said W. J. Mathews. "The corn school was the most valuable work done in the county," according to Henry Pfeffer. Fred Hudson in Somer township replanted all the corn in the field except the test plot which was a perfect stand.

Wirth Hinton replanted all of thirty acres except the two rows in the plot, which came in fine shape. A count of 100 hills in E. B. Bengston's field showed 229 stalks in the resistant plot against 184 in the ordinary corn. Harley Sanders said his resistant corn was up two days ahead of any corn in the field. Lincoln Sadorus in Somer township had 170 acres of corn that was a perfect stand while his neighbors who were too busy to attend the corn school replanted. A report from Iowa shows that farmers in nine counties who took time to cull and ear test their corn were paid \$60 a day for their efforts.

From the time a kernel of corn is placed in the ground until it waves its green banners for the sun to turn on his heat, a number of diseases work together to prevent its normal development. In some localities one may predominate while in others it may be another. Where corn follows wheat, it is quite likely to be the same disease that causes wheat scab. It is responsible for seedling blight and also greatly reduces the early vigor and general health of plants that survive.

In every kernel of corn there is a tiny corn plant. Around it there is a covering thru which food is drawn from the starchy part of the kernel when germination takes place and the plant starts to grow. This lining is frequently invaded by an organism which, thru its own growth, may partially or completely prevent the young corn plant from receiving nourishment. The result is either a dead embryo or a plant of greatly reduced vigor. This disease is called scutellum rot. Seed corn infected with it is always inferior, even tho under favorable conditions it may give a good stand. Corn grown from it is always susceptible to disease and the yield of sound corn and also the total yield is reduced.

A third disease that attacks the seedling, indicated by the shoot decaying near the kernel, is carried in the seed from year to year. Many otherwise normal appearing seed ears have been found 50 percent infected. It also winters over in moldy ears and stalks left in the fields. Under suitable conditions it develops rapidly and pours showers of spores or seed into the wind which carries them over the cornfield. Exposed ear tips, shanks and leaves make fertile soil for their growth. The young mold plants push their roots thru any broken place in the corn plant's covering and develop luxuriantly. When an ear is attacked, it may be reduced to a char-like mass, the tip or the butt may mold or there may be little outward sign but the disease is there just the same. Diplodia, as it is called, always reduces the stand when present and is responsible for many blighted and weak plants.

Fusarium root and ear rot, black bundle disease and smut also play varying parts.

Fortunately, the remedies are not so difficult as the names of the diseases. Perhaps I should have said they are partial remedies for as yet no means of completely clearing out the trouble has been found. Crop rotation, including plenty of legumes, is the easiest and one of the two most important means of relief. When infected seed was used in the same field or adjoining fields in Illinois, the yield was consider-



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ably less if corn followed corn or wheat than if it followed a legume, prairie sod or oats.

The value of disease-resistant seed selected from healthy stalks and rigidly culled both before and after the germination test, has been pointed out. Of course, it is necessary to start culling a strain that is already fairly resistant and capable of improvement. Many strains have been found that are so poor they are incapable of improvement.

Soil fertility and corn disease problems are closely related yet they are distinct. Phosphorus greatly stimulates root growth and may neutralize toxic elements in the soil. Varying response has been obtained by its use with diseased seed. The most marked improvement being observed in the case of corn infected with fusarium rot. Lime improved the yield from scutellum rotted seed but showed no influence in reducing the losses caused by other diseases.

Planting time is important in order that conditions be right for the new corn to make a vigorous and rapid growth. Proper drainage and good cultivation remove toxic substances and gases that lower the resistance of the corn plant.

RHODESIA—THE LAND OF CECIL RHODES

Continued from page 18

Hiram of Tyre secured much of their gold.

It seems that thousands of years ago Rhodesia was a great gold producing country. Many of the ancient diggings and rude mines can still be seen. Rhodes was so certain that there could still be found large quantities of gold that he secured the services of John Hays Hammond, an eminent American engineer, who with Rhodes made an investigation of the Rhodesian gold mines thirty years ago. The output of gold from these mines in 1915 was about twenty million dollars.

Like Kimberley, Rhodesia has diamond mines also. Thousands of carats of precious stones have come from her diamond mines. This country also has coal mines that have yielded a half million tons per year. Six thousand different mineral claims have been located in Northern Rhodesia by one great development company. There are said to be great hills of various ores in parts of the country.

One of the greatest pests of Rhodesia is the white ant. All railroad ties, telegraph poles and bridges must be of iron. These little pests are found all over central Africa. They build great ant hills twenty feet high. When Solomon said, "Go to the ant, thou sluggard; consider her ways and be wise," he must have been talking about these white ants of Africa. These great ant hills are built almost like apartment houses, so it is said. These ants know all about division of labor, have their guards and soldiers, their drones and workers of various kinds. Perhaps they have among them labor unions and observe the eight hour day.

But these ants are of value after all. In building these great ant hills the little insects are said to moisten the clay with a sort of fluid that comes from their mouths and thus make a cement that is very hard. The natives use this cement, which they can soften with water, for the building of their huts. Carpenter says, "Many of the pioneers of Rhodesia live in such huts, and there is a mission church in Broken Hill that is plastered with red clay from the abandoned homes of white ants." Next month we will go into the Union of South African States and visit the wonderful diamond mines at Kimberley.



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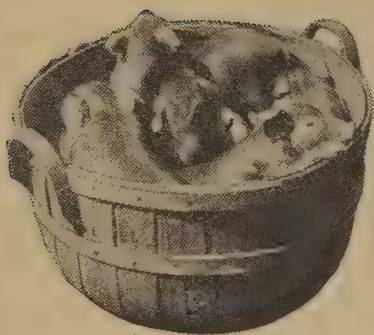


After large litters have been obtained, they must be kept healthy and free from worms

Better Brood Sows for Cornbelt Farms

Select Them Now From Good Litters

By E. L. QUAIFE



First get large litters

THE measure of the production of a brood sow is the number of pigs she saves up to weaning time, or from another angle, it is the number of pounds of pork that is actually marketed per sow. There is a great variation on different farms in the output or income per brood sow kept. Some swine producers, by pursuing the best methods possible in their hog management, do much better than others.

A recent survey made by the United States department of agriculture in a northwest Iowa county, showed that on twenty-three representative farms, there were six that saved only three pigs per sow and in the fall marketed but 700 pounds of pork for each sow kept. On sixteen farms five and a fraction pigs were saved and approximately 1,300 pounds of pork were marketed per sow. On one farm eight pigs were saved in a herd of fifteen sows and approximately 2,500 pounds of pork produced per sow in the season.

Here is a range from very unprofitable production per sow to very profitable production. This same variation is also found in the individual herd of sows; some sows doing poorly and others doing exceptionally well.

What is the opportunity to build up the production per sow on cornbelt farms? Sows in Iowa last spring saved approximately five pigs per sow. These pigs at six months of age will average about 120 pounds. Is this production the best swine raisers can do? With the idea in mind that there is a chance for improvement, several different projects have been undertaken which in time should show returns.

The ton litter clubs, which have been carried on in several counties in Iowa as well as in other states, demonstrate very forcibly to what extent production can be increased per sow, and also demonstrate ways and means as to how this production can be built up. A late report from Texas shows that a total of 4,290 pounds of pork was made from a litter of 14 pigs from one sow in 180 days.

In Madison county, Iowa, the past summer a ton litter club was organized, and out of twenty-three entrants there were five farmers who succeeded in producing a ton or more of pork in 180 days from one litter. The heaviest in this case being a litter of eleven chester whites which weighed 2,610 pounds at six months of age. Contests of this sort have demonstrated at least four fundamental principles in connection with the most economical pork production. First, the sow must farrow a good sized litter. Second, she must nurse this litter well and bring it up to weaning time well grown. Third, a good feeding type of pig must be produced, and lastly, these pigs must be kept healthy and as free as possible of worms.

The sow is necessarily the starting point in this effort to in-

crease production per sow. Recognizing this, there has been an effort made the past few years thru brood sow selection demonstrations to call attention to the importance of saving only those gilts or sows which possessed the earmarks of being good producers.

At the demonstrations the factors influencing the size of the litter are discussed. The marking of the gilts at weaning time from good sized litters is suggested. Few market hog men do this, however, and in the fall when it comes time to select the gilts, are unable to tell whether they came from large litters or not. Another factor influencing to some extent the size of litter is the type of the sow. Only those gilts should be saved which possess a long, roomy body. The short, chunky, compact fat type of gilt is usually discriminated against on the ground that she is more likely to produce a smaller litter than is the stretchy type of sow.

The condition of the gilts at time of breeding is another important factor discussed. Good hog breeders as well as research men feel that the condition of the sow has considerable to do with the number of ova she is likely to produce in her ovaries. It is a good plan to separate the breeding gilts from the barrows several weeks prior to breeding and feed the gilts more oats, tankage, pasture, skim milk and other feeds of a similar nature which will tend to grow the gilts out rather than fatten them. Such feeds of a protein nature tend to stimulate the ovaries to the production of a maximum of ova or eggs. Many

gilts are fed too much corn prior to breeding and are brought up to breeding time too fat to produce the biggest and best sort of litter.

Particular attention is also called to the fact that it is always well to select a boar from a big litter and to have him in good physical condition at time of breeding. Too many market hog men wait until nearly breeding time and then go out and get a boar. Often they take what they can get and he may not be in best condition to take care of a bunch of sows. The boar should be given a chance to exercise and fed on a ration of protein nature such as oats and middlings, plus a small amount of tankage and enough corn to keep him in fair flesh. Two services per day, one in the morning and

another at night is about the maximum for best results, especially for young boars. An older boar might be used three times per day.

In the selection of these sows, particular attention is paid to what the sow shows in ability to save her pigs. A long, clean cut face is desired with a trim jowl, free from wrinkles. Then the body should be long and deep, showing smoothness. The belly should be long and sagging slightly, rather than short and straight like a barrow. Above all, attention should be given to the teats. Gilts should be saved that show five or six good, clean cut teats on each side.

Some gilts have what are known as inverted teats which are absolutely worthless for pigs to nurse. Last year at one of the demonstrations, four gilts were discarded which did not look like good milking sows, and furthermore, they had a number of inverted teats. The owner, however, was short of sows so he bred these four to see what they would do. (Cont'd on page 61)



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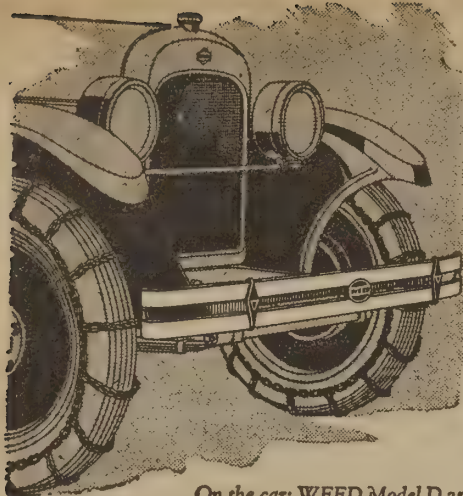
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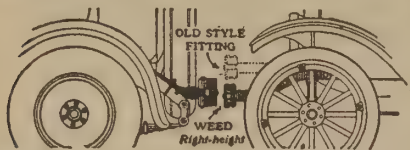


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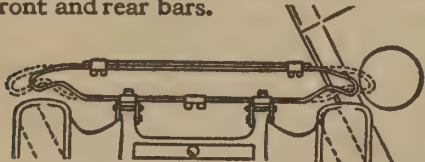
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With five less sows to feed, take care of and worry over, James Thomson, Atchison county, Missouri, raised 53 more pigs in 1924 than in 1923. His records show \$500 more profit from his hog operations than the year previous.

Just before farrowing time last spring, Thomson thoroly cleaned his hoghouses and scrubbed them out with lye water. Then each sow was scrubbed and put in her pen. When the pigs were ten days old, they were removed to a clean field of sweet clover.

During the spring of 1923, W. P. Hinckley, Potter county, South Dakota, had 43 sows farrow 300 pigs. The pigs were well fed and ran around the hog house. At the end of the first month they began to die. This continued until only 47 were left. When they were vaccinated, 17 more died leaving 30 from the original 300. The spring of 1924 Hinckley started his pigs according to the McLean county system and raised 190 pigs from 27 sows. "It meant \$3,500 in cash to me and besides I had the pleasure of caring for and looking at a fine, thrifty bunch of shotes," said Hinckley.

In Mills county, Iowa, R. C. Hopp fought enteritis for fifteen years. Death losses ran up to forty percent and many pigs that survived were runts that died



Colony hoghouses on farm of A. C. Lanz, McLean county, Illinois

later. Considerable money was spent with no results. Three years ago he cleaned his hog houses thoroly, scrubbed the sows and kept them in their pens until the pigs were ten days old. They they were taken out to pasture and kept there. The hog herd has not had a case of enteritis since.

Walter Glynn in the same county had been fighting enteritis and sniffles among his hogs unsuccessfully. When the majority of his herd farrowed last year, he moved it to a piece of timberland where hogs had not been pastured for several years. Pigs were not allowed in the old hog lots. Six sows that farrowed later were kept around the barns. Their pigs were practically all runty and Glynn valued them at about fifteen cents apiece.

From Kansas, many similar experiences are reported. Horace Marr, a prominent breeder of Durocs in Bourbon county, says, "This system (McLean) takes more labor but it pays. From two litters of nine pigs each, farrowed in the old, uncleaned sheds, three pigs survived. Four litters farrowed on new ground, weaned thirty-two thrifty pigs."

C. G. Huegel, Jackson county, Kansas, had pigs farrowed April 25th, on clean ground, that weighed one-third more than January and February pigs.

John I. Babier, Dakota county, Nebraska, marketed at a loss 80 pigs ten and one-half months old that weighed 225 pounds apiece. The next year he marketed 52 head that averaged 283 pounds when the oldest were nine months old. Clean houses, clean sows and clean lots for the pigs did the trick.

The sows farrowed in individual houses of the A-type which were built 7x14 feet to accommodate two sows. These five houses cost \$150 new. Extra labor for hauling the water and feed to the pigs while they were out on pasture was worth about \$50, estimates Babier. He considers the cost well worth while.

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PLAN TO LAMB DOWN SOME CORN

Somebody tells you to lamb down your corn, instead of hogging it down. You may wonder if it is a profitable practice. The practice of lambing down corn has been found by W. P. Mendill of Iowa, to be the more profitable one. He says sheep are very efficient in turning corn, rape and other grain into mutton. The sheep not only harvest the crop, but also destroy troublesome weeds.

Mendill has lambed down corn for more than ten years and has found it to be a very profitable, economical method.

When the first of September approaches, Mendill buys some lambs from the Omaha market. His purchase usually consists of two double-decked carloads of western lambs. The lambs belong to the Merino and Leicester breeds and come from the Wyoming and Idaho ranges. They vary from fifty to sixty pounds in weight.

The lambs must be handled carefully because they are exhausted by the time they reach their destination. Upon arrival he places them in a small lot in which the grass is quite short. In this way they are prevented from over-feeding themselves. The usual loss does not exceed more than seven or nine head from the total of 600 shipped every year.

The lambs are kept on this kind of feed for a period of one week or until they are rested and have become used to the new kind of feed. Then they are put on a heavier feed. This is either a meadow or a cornfield for a few hours every day.

As a general rule, Mendill sows rape in about thirty acres of the cornfield. The rape is sowed at the last cultivation at the rate of about three pounds per acre. This supplies the sheep with a succulent feed and prevents them from eating corn until it is fully mature.

In starting sheep on rape or corn, one must be careful that the feeding periods are short or there is a chance of loss from scours. The time is gradually lengthened to half day and finally they are allowed to feed the whole day long.

It is the best practice to bring the sheep to the yard at night, thus preventing any loss from dogs or any other sources. When lambs are fed on such a ration, it is very essential that they should get ample salt and water. If brought to the yard, they have a chance to get plenty of water and salt.

The sheep usually do not touch the corn if there is a good stand of rape. When the rape gets short, they will feed on weeds and the lower leaves of corn. Afterwards they reach the silks and finally the ears. In case they show a tendency to feed on corn before it is fairly mature, they are removed to another field at once for they will not make as good gains on immature corn.

This system has enabled Mendill to add at least twenty pounds to the weight of lambs from September to December. "This is the most profitable way of marketing your corn crop," he says.—Y. P. B., Neb.

CROSSES HIS HOGS

M. W. George, Bremer county, Iowa, believes, after trying it for several years, that the first cross produces better pigs for market purposes than straight line breeding. Clover pasture, plenty of milk with some corn and a small amount of tankage help finish the pigs he raises from these crosses.

In March, 1924, he had pigs farrowed from duroc sows with a hampshire boar as the sire. These pigs averaged 239 pounds in mid-December when they brought him \$9 on a home market. "However," commented George, "it will pay the pork raiser to keep away from further crosses."—G. C. T., Iowa.



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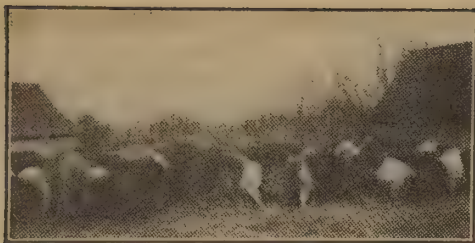
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FAVORS THE BACON TYPE

DURING the World War we were urged to save fats by using substitutes. Cooking recipes called for cottonseed oil compounds. The newspapers and magazines carried large advertisements of different substitutes for lard. American women learned to use these substitutes and continue to do so because they have become accustomed to them. So after the war, the demand for lard hogs decreased. The medium weight hogs began to bring the highest prices.

About that time Thornton W. Lynes, Boone county, Missouri, was traveling thru Kansas and Missouri, and had occasion to learn something of the conditions. A few far-sighted farmers were raising bacon type hogs just as an experiment. As Lynes studied the market, he had a vision of what might be done with this type of hogs. So he decided to try his luck. His farm is near a college town where there is a great demand for breakfast bacon, ham and eggs and ham sandwiches. There are also several small packing plants near that do custom butchering.

Has Good Pastures

The Lynes farm has an excellent bluegrass pasture. It is well drained and the pasture has a creek with gravelly bed which furnishes clear water all the year. There are two sets of buildings so the herd is divided. The sows and pigs are kept near the house and the larger hogs down at the other barn. The individual hog houses were well built, tho not expensive. Each lot was well fenced with good posts and four-foot woven wire and had a good growth of bluegrass.

Down at the lower barn Lynes threw out a basket of yellow corn and called "Whoo-ee" and how the hogs came! About 200 of them. "We brought them in off the bean field a few days ago," said Lynes. "I believe in soybeans and cowpeas, both for bone building and meat development.

"We plant the beans between the first and tenth of June and cultivate them until about the same time in July. Then we plant cowpeas between the rows. The beans mature about the time the cowpeas are in the dough, which gives a dry feed and a green feed together and that's the time to turn in the hogs. We hog down corn, too. Labor is high. The pigs clean up the field and leave the manure where it is most needed.

"My hogs are always healthy. I give cleanliness due credit for that. Yes, they have been vaccinated. I can't afford to take a chance on cholera. I feed tankage usually. We feed a little shorts to the pigs after they are weaned. We also keep lime, salt and wood ashes before them at all times.

"Last spring we had 144 pigs which

were weaned at eight weeks. We fed them about 100 gallons of milk a day from a dairy in town, a little shorts and some shelled corn. They ran on pasture. When they were five months old, we sold 50 barrows weighing 137 pounds each to a neighbor. They were beauties. These are the balance of that bunch. I want to ship a carload of them right away thru the cooperative shipping association."

"Why the cooperative shipping association?" was the next question.

"Because it pays," replied Lynes. "Why once I sold three hogs thru the association which brought me \$23 more than the local shippers offered me. It does not turn out that way every time, but taking it year after year it pays. My hogs usually top the market in St. Louis, too."

Twelve sows farrowed 132 pigs in the fall; five having thirteen pigs each and one fourteen. Lynes raises only a small acreage of corn as he and his son do all the work on the place and prefer to raise cowpeas and soybeans. Most of the farm is in grass. When talking of the business, Lynes always says "we," for he is a modern farmer and his son is a partner in the business. They have fifteen sows that will farrow in the spring. Each one has her house bedded with clean straw, and her own grass lot in which to exercise.

Some men tell Lynes he is ahead of the times; that people are not ready for bacon type hogs. He says "No, I think not, for right here in Boone county there are a number who would like to raise them now."—Mrs. J. A. P., Mo.

WHY WE HAVE A DOG

As the youngsters were clamoring for a dog, I carefully considered the matter from the profit as well as the pleasure



angle. I argued in this way, if I can give the kids pleasure and bring profits to myself at the same time, I am perfectly willing to get them their dog.

Now this is the way I figured the profit of a dog in the operation of my farm. From the above I fear the reader has put me down as a hard headed money grabber. Not so. You must guess again. I intend

to keep the young folks with me on the farm by all fair manner of means, because I realize that I have no more important or valuable assets on the farm than those same youngsters. And to keep them happy and contented, I am trying my utmost. And so that is one reason why they shall have their dog.

But no mongrel or nondescript cur shall be allowed to be companion to my thorbred (pardon me) youngsters. He must be a likable, trainable, intelligent dog. Any other kind would be considered a nuisance on Lone Oak farm and a menace to the community.

The keeping of a dog, it seems to me, is only excusable when he is of the best breed, well trained, kindly treated and well fed. When he is not kindly treated, he is likely to become vicious and unsafe. When he is not well fed but allowed or forced to scour the country to pick up a living, he soon trains himself to become a sheep killer and a rover.—J. A. R., Ohio.

CLEAN PASTURES INCREASE HOG PROFIT

For eight years Murray Moffett, Tama county, Iowa, had not been able to raise a crop of pigs profitably. The same yards

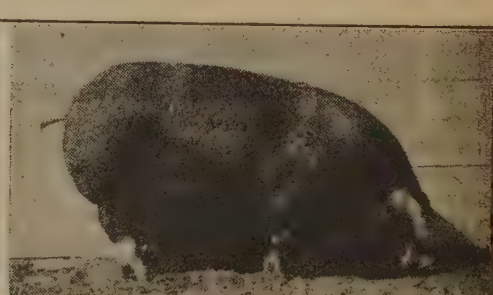


had been used year after year for pigs. Last spring he decided to incorporate in his swine growing some of the principles of the McLean county system of hog management.

He built seven colony houses, the material for each costing about \$40. These were distributed over twenty-five acres of clover. Each house was provided with a division, thereby making room for two litters in each house. Fourteen sows farrowed ninety-six pigs out in these buildings during May.

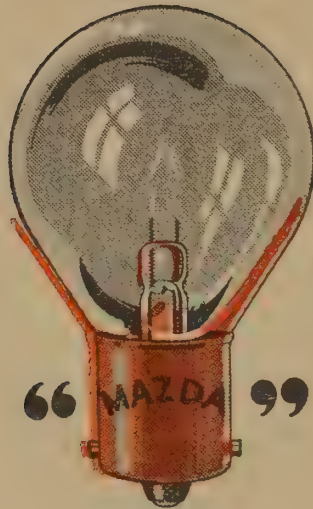
The pasture never had had hogs on it before. The porkers grazed and were thrifty. Water was handy at a creek running thru the pasture. They got ample exercise to make them rustlers and the clover supplied a part of the ration. Moffett found he was able to reduce the grain ration and still get the desired gain when the hogs had all the clover they wanted. The pasture was clean and disease was not known among the pigs. The ration consisted of clover, corn, oats and some tankage.

A striking example was present right on the Moffett farm in the way of a contrast. By chance two sows were left in the old quarters. They farrowed five pigs each and these were raised in the yards about the buildings formerly used for hogs. In the fall each of these two sows had three pigs instead of five. Disease took four, or 40 percent of them. That kind of loss had cut Moffett's hog profits in other years.—W. J. H., Iowa.



They look alike but the pig on the left is from a litter that took 253 days to reach 300 pounds and 390 pounds of feed per 100 pounds gain. The one in the middle required 257 days and 444 pounds of feed and the one at the right 274 days and 567 pounds of feed

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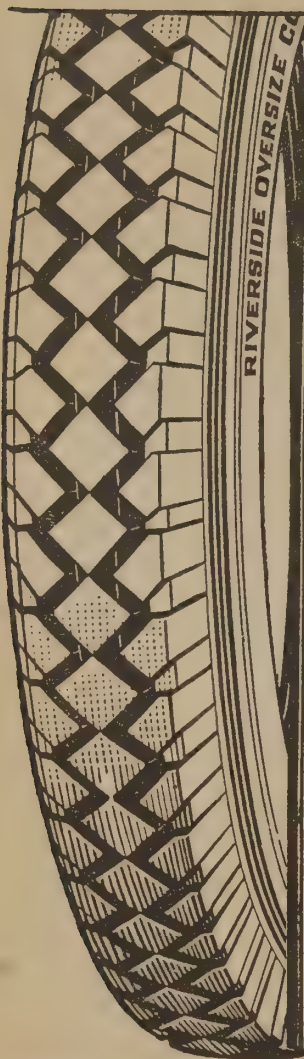


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Riverside tires cost as much as other tires to make. You pay as much for fabric, rubber and labor. But you pay less profit. That is why Riverside prices are so much less. We are the largest retailers of tires in the world. We sell 5,000 to 6,000 tires per day. Riverside Tires are made in the best factories—on our specifications, under our supervision. We know their quality.

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VETERINARY

All our subscribers are asked to make inquiry thru this department, and their questions will be answered free of charge. Give age and sex of animals, all the symptoms possible, and previous treatment, if any. Do not fail to be as explicit as possible. The remedies prescribed in these columns are intended to be prepared by local druggists. At the same time our readers should consult our advertising columns, because in many cases reliable remedies are advertised for troubles with which animals are afflicted, and on account of being scientifically compounded they will give as good results as specifically compounded medicines. Address all communications for this department to the "Veterinarian," Successful Farming, Des Moines, Iowa.

HEAVES

Heaves is a chronic disease of the breathing organs that has resulted from chronic dilation or rupture of the air sacs in the lungs.

Contrary to the usual belief, this disease is not caused by eating dusty or spoiled hay or feed, but is caused by overloading the stomach. The stomach then presses on the large nerve that supplies the lungs, with the result that the small air spaces lose their usual elasticity and hence the enforced effort to remove the air from the lungs. This condition is often brought about by working a horse at too fast a gait when on a full stomach.

Everyone at all familiar with horses has observed the peculiar double expiratory effort of a horse with heaves. This breathing is most pronounced when the animal is exercised on a full stomach. Usually there is a moist, grunting cough, the nostrils are dilated and occasionally mucous is passed from the nose. The dilation of the nostrils is constant and if this is observed, one need never buy a plugged horse that has heaves.

The only treatment in most cases consists of careful feeding and the right kind of exercise. Give good, easily digested feed and do not give the animal an opportunity to gorge itself. I would also advise one or two tablespoonfuls of chalk with the feed night and morning.

Use Fowler's solution of arsenic as follows: Begin with one teaspoonful on the feed three times per day and gradually increase until the animal is getting one tablespoonful three times each day. Keep this up for six or eight weeks or until the eyes appear puffy and watering. Discontinue then for a few days and begin again as before.—G. H. C., Iowa.

Rid Horse of Blood Worms—Would like to know what is the matter with my horse. He is seven years old and has plenty of life in the summer, but in the fall and winter he gets drowsy. Hair is long. He has no life. Has worms—small red worms about one-eighth of an inch long. What can I do to rid him of these?—L. P. V., Iowa.

To rid the horse of blood worms, which you describe, withhold feed for thirty-six hours and then have a veterinarian administer four to five drams of oil of chenopodium in a gelatin capsule and follow immediately with a quart of raw linseed oil as a drench. Clipping such a horse in autumn and spring would also prove beneficial, and it would be advisable to have his teeth put in order by a veterinarian.

Mammitis—I have a purebred Jersey cow six years old fresh five and one-half months. She had mammitis in two back quarters six weeks ago. One teat is almost dry; the other got all right. Now she has it in one front quarter. I gave salts and used zinc oxide and vaseline. Bathed it with warm water and salt. She had a chill each time. I also have a heifer that was fresh at fifteen months old and she had garget in one quarter. Seems all right other ways. That quarter is almost dry. She is a purebred heifer. What would be the best thing to do?—W. H. S., Ore.

Isolate the affected cows and milk them last or have some other person milk them who does not attempt to care for the other cows. Cleanse, disinfect and whitewash the stalls occupied by the affected cows. If possible, have a veterinarian give them hypodermic treatment with mastitis bacterin. Keep affected quarters stripped clean and destroy the milk. Twice daily rub in a mixture of equal quantities of camphored oil, carbolic oil and compound soap liniment. There is very little hope of permanent recovery in such cases.

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To Correct Excessive Bowel Looseness—I have a mare that is troubled with looseness of the bowels. Have had her for about three months. I feed her ground oats, clover hay and straw. Will you kindly advise me as to what I should do? She is rather old, I believe around ten or twelve years. C. C., Wis.

Have the teeth put in order by a veterinarian. Then feed whole oats, some ear corn and good mixed timothy and clover hay. Feed the grain from a large shallow box to prevent bolting. If the looseness continues mix in each feed a tablespoonful of a mixture of two parts of prepared chalk and one part each of subnitrate of bismuth and powdered catechu.

Fistulous Teat—I have a very nice cow and when she freshened on the tenth of this month I found a little hole in the teat about half way up on the inside of the hind teat. When I milk the milk runs out of the hole in a stream as large as a knitting needle. Will you please advise me what to do for it?—C. N. J., Wis.

The false duct or fistulous tract in the wall of the teat can be closed when the cow is dry. Until then swab the opening with tincture of iodine two or three times a week and if that does not stop the leaking of milk put a wide rubber band around the teat to cover the opening at milking times. Burning the lining membrane of the false duct with a red hot knitting needle when the cow is dry is commonly done by dairymen to close the opening, but it would be better to have a veterinarian operate.

BETTER BROOD SOWS FOR CORN-BELT FARMS

Continued from page 54

They farrowed fair sized litters but when it came to nursing pigs, they fell down, and the four sows actually saved a total of seven pigs.

Inverted or "button-like" teats are hereditary, so if one has this condition among his gilts, those with the bad type of teat should be discarded.

Above all, the fact is not lost sight of in these demonstrations that the type of gilt must be upheld, which when mated to the right sort of a boar, will produce a good feeding type of pig. A pig that is given a chance will make 200 pounds or more at six months of age. This demands a good bodied sow possessing stretch, depth and width, mated to a boar of similar requirements. A feeding hog, to make the above weights at such an age, must have good body conformation and possess considerable stretch. The only place from which he can get these qualities is his sire and dam. Both sire and dam should possess good bone and stand squarely upon short, straight pasterns.

Ton litter contest exhibitions, where ton litters are placed side by side, give hog raisers an excellent opportunity to study type. In the Madison county contest this past fall five litters made a ton or better, ranging from 2,200 to 2,610 pounds. The number of pigs in the litters were the same.

These litters were all cared for equally well, the difference in weight at 180 days being due purely to type. The heaviest litters possessed more stretch.

A year ago last fall there were 181 brood sow selection demonstrations held on Iowa farms. Last fall there were nearly 300 held in about sixty counties. Reports from a large number of the herds where the culling was done a year ago, show the litters averaging 7.63 pigs per sow compared to 7.4 per sow for 1923. These sows saved at weaning 6.58 pigs as against 5.87 for 1923, or nearly three-fourths of a pig more per sow. The average number of pigs saved per sow over the state last spring was 4.9, so these cooperators saved 1.68 more pigs per sow than the average. It would not be entirely fair, perhaps, to attribute all of this gain to culling, but there is no doubt it had some influence, along with the better care and feeding given to these sows as a result of the demonstrations.

There is little question that a great opportunity exists along this line for increasing brood sow production. Just how much will be gained depends upon how much of the better practices swine raisers are able and do put into practice. Time will tell.

Sugar beet growers in Pennington county, Minnesota, realized \$7 per ton on 5,500 tons of beets last year. Approximately 800 acres will be planted this year.



Thousands of Mothers tell me this solves the problem of their children's mealtime drink

By Carrie Blanchard

"NO, you can't have that. Wait until you grow up."

What an unsatisfactory answer to a child's request! And yet it is the answer so often given—naturally—when the youngsters want a drink which you know they shouldn't have.

This is only one distressing phase of the children's beverage problem. There are so many, many children who don't like the taste of milk, quite honestly, and it is at least difficult, if not impossible, to get them to drink the milk they need. And you are quite right in thinking the children should have a warm drink, too.

For a long time I was just as much at loss as you may be for a drink combining all the ideal qualities for children. Postum was good for them, I knew, but they need milk, too; and all of the other warm drinks, it seemed, contained caffeine or some other objectionable element.

And then one day a little woman who called on me (you know I have about 25,000 visitors a year) told me how much her children loved Instant Postum made with hot milk instead of boiling water. We made some on the spot, I can tell you, because I was tremendously excited about it. If Instant Postum could be prepared this way, it, of course, was the ideal drink for children.

We heated the milk just to the boiling point, put a teaspoonful of Instant Postum in each cup, and filled the cups up with the hot milk. Just a little stirring with a spoon, and the powder was completely dissolved. Then we added a little sugar.

The drink was wonderful! Smooth and rich, with the real Postum flavor—the delicious flavor of roasted whole wheat and bran! Here I had been demonstrating Postum all over

the country for years, telling hundreds of thousands of people the story of its wholesomeness, without discovering this easy way of adding to its nourishing qualities—of making it a complete and perfect food for children!

From that moment I began telling mothers about it. Now I wish you could see the letters I get—scores of them every day, overflowing with gratitude, from mothers whose children are growing up sturdy and full of life, always happy to get this wonderful drink!

I want you to try this drink for your children. You can get Instant Postum at your grocer's—or accept my offer!

Carrie Blanchard's Offer

I want you to make a thirty-day test of Postum. I want to send you, free, your first week's supply and my directions for preparing it.

For Postum made with milk you will want Instant Postum, the powder form, which is made instantly in the cup. If you want Postum prepared in the usual way, with water, you can use either Instant Postum or Postum Cereal (the kind you boil). You will be glad to know that Postum made this way costs much less, per cup, than most other hot drinks.

Incidentally, don't you think it would be a good idea for you to try Postum, too? At any rate, for your children, let me send you the Instant Postum right away!

FREE—MAIL THIS COUPON NOW!

POSTUM CEREAL Co., Inc., Battle Creek, Mich.

S. F. 4-26

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Postum is one of the Post Health Products, which include also Grape-Nuts, Post Toasties (Double-thick Corn Flakes), and Post's Bran Flakes. Your grocer sells Postum in two forms. Instant Postum, made in the cup by adding boiling water, is one of the easiest drinks in the world to prepare. Postum Cereal is also easy to make, but should be boiled 20 minutes.



HEATED HOGHOUSE SAVES PIGS

COUNTING the feed of the sow from breeding time until the pigs are weaned, the cost per pig of a litter of four is about twice that of the pigs in a litter of seven or more. There is no more important angle of the hog business than that of saving the largest number of pigs per sow.

There are two distinct schools in farrowing methods. One favors the small portable house that can be easily moved from one spot to another because it can be kept on clean pasture and the pigs avoid parasite contamination. But these small houses have the disadvantage of making good care difficult to give and feeding somewhat tedious. They are hard to get into, hard to get out of, especially when an old sow is gnawing at your rump, and hard to keep warm in the case of early pigs.

The other school anchors its hopes to the big hog house that houses several lit-



ters of pigs, for here they are more easily cared for. True, the manure made here must be hauled to the field necessitating more work. Moreover, large houses are difficult to keep clean.

But whether one uses the colony house or the movable houses, raising February and March pigs is difficult because they are so likely to chill. But the early pig generally draws the high dollar.

Fred Baum, a farmer of Grant county, Indiana, has a hog house that he can warm artificially, thereby keeping the floor of the farrowing pens warm until the litter is two or three weeks old, after which he finds there is little danger from chilling. This hog house is 60 feet wide and 125 feet long. There are eighteen pens on the south side that are warmed artificially by an under-floor flue as wide as the pens and extending under all eighteen pens. The fire box of this flue is outside the hog house proper and is five feet wide and eight feet long, long enough to put in a rail or log without cutting. This outside fire box is bricked over on the sides and top and has a tight fitting door.

Floor is Warmed

At the other end of the hog house is a stack which is one by two feet in cross section area and twenty feet high. This makes draft enough so that the smoke is drawn underneath the entire eighteen farrowing pens, thereby warming the floor and extracting the last possible therm of heat from the smoke.

The passageway thru which the smoke goes is a half-moon shaped trench under the floor. Narrow, two-celled clay building tile were used to form the top of this cavity which is also the floor of the farrowing pens. Wooden board supports were put down first, then the tile were laid on top of them and where every other tile came together, a two-inch space was left in which an inch iron pipe was run from one wall to the other. These cracks were then filled with concrete and on top of the bricks an inch concrete floor was laid. This house has been in use for two years and has given perfect satisfaction. The farrowing pen closest to the fuel box outside gets too warm for farrowing purposes so it is used for a storage pen.

One trouble that practical hog raisers

encounter when trying to raise early pigs without artificial heat is that the pigs crowd up close to the sow because she is the only source of heat. If she is of a nervous temperament, she gets up and down a good many times during the first few days and each time she lies down pigs are in danger of going to the wall.

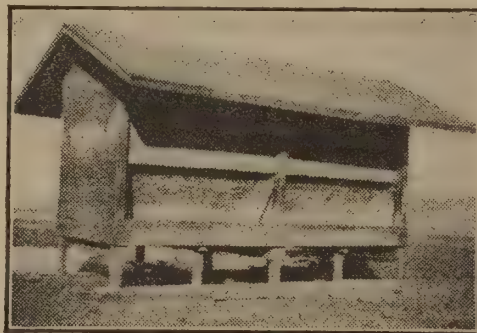
With these warm farrowing pens, Baum finds that as soon as the pigs have taken nourishment they go into the corners which are protected by the guard rails. They go there because it is a little warmer on account of the straw being pushed back there. Like chicks in a brooder house, they search out the temperature that suits them best. The owner believes the saving of pigs from this fact alone has already paid him for the added expense of putting in this heating plant. The fuel expense is not very great because trash, old rails and limbs are largely used. The man who cares for the sows told me that it takes but four pieces of wood per day. There is a good draft and the smoke chamber being long, very little heat is wasted.

The farrowing pens are 7x8 feet. Clean straw is put in before the sows farrow and the floors are disinfected both with coal tar disinfectant and hydrated lime. In the corner of each pen, just above the guard rail, is a slatted manger that holds a forkful of alfalfa hay, for Baum finds alfalfa hay an ideal roughage for brood sows. It keeps the bowels open and provides vitamins and minerals for the ration. The sows are given a forkful a day.

While there are more than eighteen brood sows on this farm, the eighteen heated pens are enough. When the litters are two or three weeks old, the sows are changed across the feeding alley to pens without heat, and as soon as the pigs get to know their mothers, five or six sows with pigs the same size are put together so they can be fed easier. Also they have a common water supply. Each pen is provided with a wooden trough that has three sections, one for minerals, one for common salt and one for the feed.—I. J. M., Ind.

SELF-FEEDER SAVES LABOR

Heavy steers on ground corn and ground barley mixed half and half self-fed with clover and timothy pasture make wonderful gains according to the experience of Nathan Northey and Will Padget, who



are partners in cattle feeding in Black Hawk county, Iowa.

Starting thirty-six head of steers last May on pasture, Northey & Padget fed them grain at bunks for fifteen days to get them on full feed and then switched to feeding grain from a home-made self-feeder. The steers had the run of the heavy pasture all summer and were at liberty to eat as they pleased from the feeder.

The feeder is 12x6x4 feet. The trough is a little more than two feet wide. The sides of the feeder slant inward part of the way and come within eight inches of one another six inches above the floor. The amount fed out is regulated by a six-inch board operated in a groove at each end of the trough.

The roof extends out enough to protect the trough. It is made of sheeting, 2x4 pieces, and is covered by a waterproof material. The sides are of six-inch flooring and the floor is the same. In each end

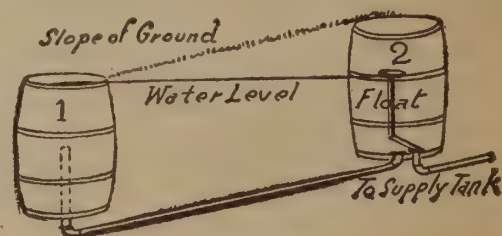
near the top there is a drop-door. The legs are of 4x6 pieces and they stand on two 8x10 timbers. The latter make it possible to move the feeder with a team.

Northey & Padget figured out their own plan. The material and the labor of two men two days to make the feeder, brought the cost to \$90. It holds 180 bushels and must be filled about every twelve to fifteen days during the summer. In labor saving it repaid the \$90 many times the first season, the owners say. The cattle never were yarded and received hay only the last two weeks when pasture got short.—W. J. H., Iowa.

A SIMPLE HOG WATERER

We have been using a hog waterer on our farm for the last two years which is practically troubleproof. It consists of two barrels set in the ground as shown in the illustration. Barrel No. 2 should be higher than barrel No. 1 so that when it is about half-full of water, barrel No. 1 will be full.

A pipe leads from the supply tank to barrel No. 2 and from this barrel to barrel No. 1, from which the hogs are to drink. The gaspipe should extend a little over half-way up into barrel No. 1 so that dirt will not get in the barrel and clog the pipe. A float should be put on the pipe



that leads from barrel No. 2 to control the height of the water in barrel No. 1.

Both barrels should be sunk level with the ground. Place them on a slight slope to get the desired fall. It is a good plan to build a platform around barrel No. 1 so that dirt can be more easily kept out.

In the winter barrel No. 2 should be covered with manure to prevent freezing. A board with just enough space left for the hogs to drink thru should be put over barrel No. 1 so that little pigs will not fall into it. By placing the barrel where two fences run perpendicular to each other, hogs can drink out of it from four different lots.

If a shelter is put up on the north side of barrel No. 1, the water will seldom freeze over even in the coldest weather as the ground keeps it warm.

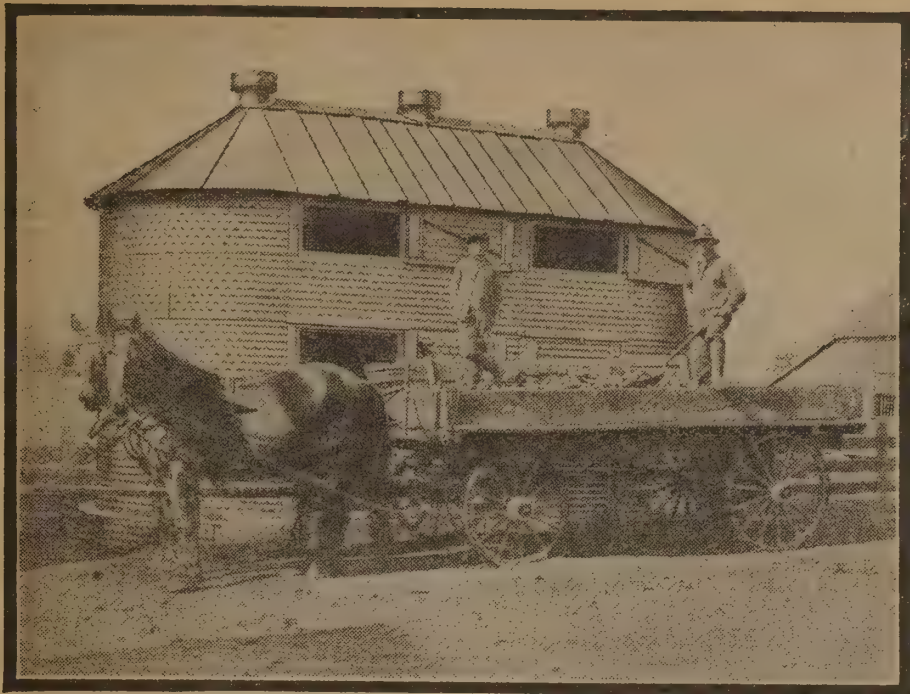
Old linseed oil barrels are the best to use as they will last for years.—L. S., Iowa.

TRIM AND PUSH THE LAMBS

More than 750 Kentucky sheep raisers pledged themselves to dock and castrate their entire 1924 crop of lambs. Kentucky market records for 1923 in Fayette county showed that trimmed lambs sold for \$2.32 per hundredweight more than untrimmed lambs. Lambs marketed before the middle of June are sometimes not discriminated against, but it is safest to make sure. This is a simple way to increase sheep profits.

In order to meet the demands of a discriminating market, lambs must be trimmed and also fat. Walter Samp, a farmer in Allen county, Kansas, more than doubled his lamb profits last spring by crowding his lamb crop for an early market. He fed out two car loads of spring lambs which averaged 83 pounds each at three and one-half months of age.

The lambs were fed in creeps from the time they could eat grain, and the ewes were kept in good milking condition. Samp attributed his ability to reach an early and much better market with good conditioned lambs to the fact that the lambs were crowded from the start. The mothers were fed a ration for abundant milk production until weaning time.



A modern corn crib of sheet steel will in many instances pay for itself in a few years by ending losses from rats.



A steel roof, properly grounded, affords positive protection against lightning. It lessens the danger of lightning strokes, by allowing a silent "leakage" of electricity between earth and clouds during an electrical storm. And should the lightning strike, the bolt will be carried harmlessly into the ground.

Sheet Steel Saves Farms From Many Forms of Loss

FARMING is a business conducted on so close a margin that there is little room for loss. Loss of property, loss of time, loss from various forms of waste—these must be guarded against. And it is in lessening and preventing these losses that sheet steel performs its greatest service on the farm.

For one thing, you cannot afford to have any rats fattening off your labor. The Department of Agriculture estimates that rats destroy every year in the United States property valued at \$200,000,000.

An Iowa farmer reported that rats had destroyed in one winter about 500 bushels of corn—one-fourth of his entire crop. Another was robbed by rats of his entire summer's hatching of 300 or 400 young chicks, and still another estimated his loss in grain and poultry, for one season, due to rats, as sufficient to pay his taxes for three years.

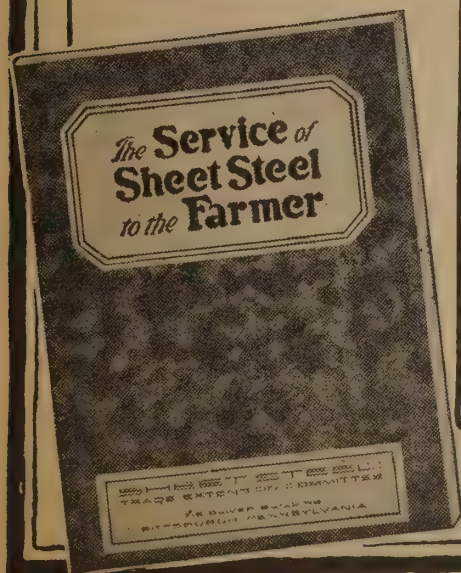
The surest, most economical and most easily applied rat-proofing is sheet steel. Corn cribs, granaries, feed and grain bins of sheet steel keep rats out. Flashings of sheet steel around floors and walls afford positive protection. No rat can gnaw through steel.

Barn equipment, watering tanks, feed troughs and poultry houses of sheet steel have the additional advantage of sanitary cleanliness. There are no cracks or crevices for lodgment of lice or vermin. Sheet steel never rots, warps, splits or cracks.

To erect an implement shed, milk house, poultry or hog house, with sheet steel roofing and siding, is simple and inexpensive, because this strong, light material does not necessitate the heavy and costly structural work required by other materials.

The number of years of service which sheet steel will give you depends largely on the thickness or gauge you use. To save a few dollars in first cost by buying sheets lighter than are required for the purpose intended is shortsighted. True economy lies in buying steel of sufficient thickness to insure maximum wearing quality.

The many ways in which sheet steel can be used to increase safety, efficiency and convenience on the farm are described in the free booklet, "The Service of Sheet Steel to the Farmer." It is of interest to every progressive farmer. Write for it now.



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LUNG FEVER IN HORSES

Exposure to wet and inclement weather, overexertion, a cold, irritating fumes such as smoke and drenching thru the nostrils are often followed by pneumonia. Damp, cold and crowded stables also predispose to this condition. The disease itself is caused by a germ, but the above circumstances are all predisposing conditions which make the animal susceptible to it.

The animal stands with its head down and with drooping ears. Most animals remain on their feet thru the attack or until they are completely exhausted. The appetite is lost and the animal is constipated. A harsh, grating, whistling sound is heard when the ear is placed over the lungs. If the animal has pleurisy also, which is an inflammation of the lining of the chest cavity, a distinct ridge will be noticed extending from the region of the flank down to the lower end of the ribs.

Horses affected with pneumonia like fresh air and nothing is better for them if there are no drafts.

Pneumonia reaches the climax at about the sixth day at which time the temperature reaches the highest point. Very little medication is to be recommended, save careful nursing and stimulants and good dieting to conserve the patient's strength. The animal should be covered with a good, warm blanket, placed in a dry, well-ventilated box stall, the legs rubbed well two or three times daily and then bandaged.

Many times the horse is not noticed when it is having the chill which is often the first symptom. If it is observed, treat as for congestion of the lungs. A veterinarian should prescribe treatment as soon as one can be secured. After the chill has subsided, it is helpful to place a tablespoonful of saltpeter in the drinking water once each day.

Early in the attack a mustard plaster should be applied. Mix ground mustard seed in warm water making a fairly thin paste, which should be plastered over the chest walls, working it into the hair. Cover it with oilcloth or a piece of canvas which in turn is covered with a blanket. When the mustard has served its purpose, it can be brushed out of the hair.

Remember that good care and careful feeding are of more value in pneumonia than any medical treatment. Complete recovery rarely takes place in less than three weeks.—G. H. C., Iowa.

HOW WE KILL SHEEP TICKS

We are in the purebred sheep business, and since traveling with a show flock is a sure way of introducing a new supply of sheep ticks into the flock, at least once a year, we have tried out many methods of exterminating them. Of course, dipping is one of the best ways, but involves much labor and can only be done under proper weather conditions.

We have worked out a plan that has proved very effective with us. In a shaker top can we use a 50-50 mixture of sodium fluoride and powdered talc. (The talc is used merely to cut the cost as it is cheaper than the sodium fluoride.) This is kept right at hand at shearing time.

After shearing, turn the sheep on its side and dust well with the powder. Now take the hand and rub well into the wool, turn and treat the other side, back, neck, head and all parts of the sheep. In about thirty-six hours his back will be black with ticks, even tho he seemed to be free from them after shearing, and on closer examination you'll find them to be dead ticks.—Mrs. J. E. R., Ohio.

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Often Within 24 Hours—Not A
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Rats on your place, in addition to spreading disease, cost you in damages over \$500.00 a year. Ordinary poisons, Viruses and traps do little good in combatting these pests.

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A 900-POUND CALF

A calf, to weigh 900 pounds at one year of age, must be well fed. H. F. Caldwell, Fayette county, Indiana, recently sold a purebred Angus calf for \$12.25 a hundred that weighed 930 pounds when one year old. The weight is an official one made by the Indiana Livestock Breeders' association and it won Caldwell a silver medal besides a premium of \$2 per hundred over the best load on the market that week.

"My calf was fed as soon as he would eat," said Caldwell. "He was halter broke when very young and could be tied in the stall any time during the year. His first ration was bran, cracked corn and clover hay. Ground wheat and a little linseed oilmeal were added a little later, the bran was omitted. At about six months ground oats were added, making a ration of one-half ground corn, one-fourth ground wheat, one-fourth ground oats with a little oilmeal and all the clover hay he wanted.

"This ration was fed until the calf was about ten months old when the oats and wheat were left out because he did not seem to like the oats and wheat so well. He was weaned from his dam at about ten and one-half months. After weaning, he was fed shelled corn, two pounds cottonseed meal per day and clover hay to the finish.

"His quarters during ten months was a stable about 12x20 feet. It had one window in the end which was closed in the day time during the summer. He was loose in this stable and never was turned out during the entire time. From ten months on, the calf was tied up in a cow stable and had very little exercise. He had all the water he wanted all the time.

"The following are his weights at various times: July 9th, 525 pounds; 8 months, 630 pounds; 10 months, 800 pounds; 11 months, 870 pounds; 12 months, 930 pounds."

GREEN FEED CUTS HOG COSTS

Good gains and cheap gains were made possible for Jesse Wehrli, Holt county, Missouri, thru the use of clover pasture. With the clover he fed corn and tankage at the ratio of fourteen to one. Eighty-two April pigs gained 1½ pounds per head daily for 122 days at a cost of \$5.73 per hundredweight. Corn cost seventy-five cents a bushel; at one dollar the cost would have been \$6.80.

At the Missouri experiment station uniform lots of pigs were fed similar rations but part of the hogs were kept in dry lot and part on forage crops. An acre of clover then produced 567 pounds of pork; bluegrass, 324 pounds; rape and oats, 354 pounds; rape, 414 pounds; sorghum, 275 pounds; cowpeas, 212 pounds; soybeans, 117 pounds and rye 211 pounds.

"Get the pigs out on forage as soon as possible," says J. W. Wuichet of the Ohio experiment station. He places alfalfa first in value followed in order by sweet clover, red clover, rape and bluegrass. To a good legume forage add one and one-half to three pounds of grain daily per hundred pounds of liveweight. Minerals are essential if tankage or skimmilk is not fed.

At the Kansas experiment station 50-pound pigs which were fed corn with alfalfa pasture gained three times as much per day as hogs receiving corn alone in dry lot. Even when a well balanced ration was fed, the pigs on the alfalfa gained 44 percent more per day than pigs fed the same grain ration on dry lot.

Ground barley or barley which has been soaked from twelve to twenty-four hours is about 90 percent as valuable as sound corn on the pound for pound basis, while barley chop mixed with skimmilk or tankage and a little water makes a first class slop for brood sows or fattening hogs.—University of Illinois.



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"Concrete on the Farm," a book containing 98 pages of practical information, will be sent free at your request. You should have a copy to keep for reference, as it tells in simple words how farm labor can do much of the smaller concrete work that means protection and economy to you.

Concrete today is not only the safest but the most economical farm building material. Since The Atlas Portland Cement Company developed the rotary kiln, Portland cement has become the cheapest of all manufactured products.

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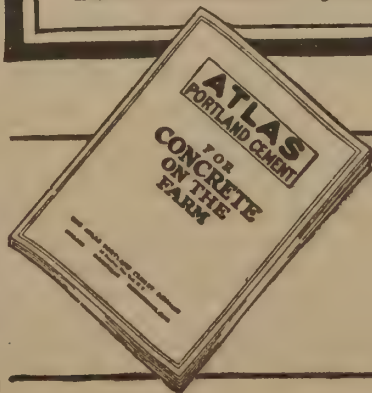
For over thirty years Atlas Portland Cement has been used on the farm. When you get Atlas from your dealer you get the same high quality that was proved in the building of the Panama Canal. More than 8,000,000 barrels of Atlas were used at Panama, and not a single barrel was rejected—though government tests of the cement numbered over 75000.

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TUBERCULOSIS OF HOGS

A new poster recently put out by the United States department of agriculture contains the following suggestions for improving health conditions among hogs.

Burn dead hogs and chickens to ashes.
Prevent accumulations of manure and old bedding in hog pens and lots.

Never feed any carcasses to hogs.

Cook all milk products fed to hogs.

Feed no slaughterhouse offal, unless cooked.

Get rid of tuberculosis hogs—start with a clean herd.

Heed the first warnings from slaughterhouse reports which show disease in your herd.

The poster is 13x18 inches and is printed in two colors. Copies of the poster and also farmers' bulletin 781, "Tuberculosis of Hogs," may be obtained free from the United States department of agriculture, Washington, D. C.

DID NOT PAMPER TON LITTER

Last year, C. P. Shidler produced a ton litter of O. I. C.'s. There were eleven pigs in the litter and they weighed 2,215 pounds at six months of age.

Shidler's practice will answer the question often asked by hogmen, "Must I push my litter from the start in order to get under the ton tape by the time they are six months of age?"

To be sure, this was a large litter, but because feed was high priced and he did not have it on the farm, Shidler turned these pigs out on clover pasture with little else until about a month before they were weighed. He then gave them a full feed of corn and tankage in a self-feeder and then got by in the six months with 215 pounds to the good. The limiting factors here were the large litter, the clover pasture and the tankage in the last stage of the fattening period.—I. J. M., Ind.

TRUCK PAID SHIPPERS

Livestock shipping associations have become established institutions. In many counties the shipping is done by the county as a unit, acting under a manager who has assistants at the various loading points in the county. One of the difficulties of this plan is that there is frequently more than a carload at one point and less than a carload at another point. And in some counties, certain communities are handicapped because there are so few livestock producers that there is scarcely enough stuff ready for market to ship a whole carload from that point.

To remedy this and speed up the livestock shipping, the Van Wert county (Ohio) livestock shippers' association bought a light truck to relieve congestion at various points. The association recently closed a year and the figures show that this truck has paid the producers of the county 600 percent on the cost.

It has given several distinct economies. For one, trucking small lots to bigger lots has allowed loading more double decks with a consequent saving in freight. Besides this, they have shipped more maximum loads and this has reduced the expense on each hundredweight.

During the twelve month period before buying the truck, they lost \$1,069.03 from deads and cripples. During the year the truck was used, the loss from this item was brought down to \$615.33, making a saving of \$453.70 on this item alone.

During the year before using the truck, the average expense on each hundredweight was 81 cents while during the year of operation with the truck it was but 72 cents, or a saving of nine cents per hundredweight. During this year 2,530,000 pounds of livestock were shipped and computing the saving of nine cents a hundred on this makes a saving of \$2,277.

But more than this, there was a saving in the shrink on account of not having to hold the hogs so long in the local yards. The average shrink on hogs was .03 of one percent before the truck and .028 with it, making a saving of .002. This decimal looks insignificant, but when multiplied by the total number of pounds of pork shipped it makes 5,060 more pounds to be sold rather than frittered out on the road. The average price received on all hogs was seven cents, so this 5,060 pounds more to sell really meant \$354.20, a sum not so insignificant after all.

Adding up all these, the total savings credited to the operation of the truck was \$3,084.90.

For this service, two cents per hundredweight was assessed against all shipments. This took \$495. The actual expense of operating the truck was but \$313, so there was left \$182 as a balance to pay on the truck. From this it is evident that for each one cent the shippers paid, they got back six cents in the way of greater economy, lessened shrink and expense. And more than this, many of the shippers appreciated having a truck at hand that could be depended upon to come out and get their stock when they were busy in the fields. Of course, this service cost them as much as would any other truck, but they always knew that it could be had, which is worth something.—I. J. M., Ind.

PREPARING THE SUMMER MEAT SUPPLY

Continued from page 14

seven days, at which time the bacon can be taken out. Allow the rest to remain in the cure about the same length of time as in the brine cure. Wash and smoke the same as in the brine cure. The above recipes will give a very mild cure for the bacon.

Sausage. For making sausage, use about seventy-five percent of lean pork and about twenty-five percent fat. Grind medium fine and mix thoroly with one pound of salt and two ounces of black pepper for every fifty pounds of meat. If you like sage, use about two ounces of finely ground sage for every fifty pounds of meat. This sausage can be packed into jars, baked thru and covered with hot lard. This should keep at least until the middle of the summer.

Head Cheese. Scraps of meat from the head, heart, tongue, feet and any other extra portions can be made into head cheese. Cook all of the meat to be used until the meat falls from the bones. Pour off the liquor and allow to cool. Then remove all of the fat from the top and pour one-half the liquor back over the meat after the bones have been picked out, season with salt and pepper to taste, mix thoroly and cook a few minutes. Pour into a flat pan or tray, cover with cheese cloth and add just a little weight. When this cools, any remaining fat will be on top of the cheesecloth.

Scrapple. If scrapple is desired add all of the liquor instead of one-half and stir cornmeal into the mixture until it is about as thick as cornmeal mush. Season to taste and cook about five minutes. Pour into a shallow pan, tray or dish and slice cold. Either fry like mush or serve cold.

Either scrapple or head cheese may be canned by the ordinary cold-pack method of canning and kept until hot weather. Some of the pork may be canned fresh. It makes splendid meat to serve hot or cold in hot weather.

Beef

Before the temperature gets much above freezing this spring, a small beef should be killed and prepared for a part of the summer meat supply. Some of the leaner portions of the beef, such as the round, can be used for dried beef which can be quite easily prepared. Cut the round into four or five pieces or strips, pack in a clean vessel and cover with a

brine or pickle made up as follows: One and one-half pounds of salt, one ounce of saltpeter, one-fourth pound of sugar and one gallon of water. This amount doubled will cure about thirty-five pounds of beef.

A six or seven-pound piece will cure in about two weeks. Wash the pieces for about five minutes in three or four different waters and hang to drip for at least twenty-four hours. A little longer will do no harm. Give it a light smoke of hickory wood and hang in a dry place until the meat becomes rather hard and dry. Wrap in heavy paper and pack away in a dry place. This can be used up during the early part of the summer.

Corned Beef. Almost any part of the beef can be used for corned beef. If you put good beef into the pickle, you can take good corned beef out and vice versa. Cut the beef into five or six-pound chunks and put into the same kind of a pickle that you would use for dried beef. In about two weeks you can begin using some of the corned beef and continue to use it out of the pickle or cure. If it is allowed to remain in the cure much more than thirty days, it should be parboiled before using. A light smoke improves the flavor of corned beef.

Hamburger. Some of the lean portions of the beef can be ground and made into hamburger. Add one pound of salt and three ounces of pepper for every fifty pounds of meat. This can be packed into jars, baked thru and covered with hot lard or it can be canned by the ordinary cold-pack method.

The remainder of the beef can be canned. Few people realize, until they have tried it, what a convenience it is to have good canned meat on hand at all times. Any kind of meat can be canned. It is surprising to find how nearly neck meat looks and tastes like steaks and roasts after canning.

The old-fashioned method of canning by cooking thoroly, placing in glass jars and sealing at once may be successful but not so sure as some other methods.

Some directions for Canning Meat. Clean jars thoroly. Remove all gristle, bone and surplus fat. Sear the meat on both sides to hold all meat juices. Cut the meat into small pieces so that it can be packed into the jars to the best advantage. Fill jars up to within one-half inch of the top. Place a teaspoonful of salt on the top of each quart jar of meat. Fill the jar with hot water. Put on the rubber rings and lids just tight enough to keep the water out but not tight enough to seal.

Place in a hot water bath either in a wash boiler or kettle of some kind. Set the jars on a rack of wood or wire so they do not touch the bottom. Cover jars with water about one inch over the tops of the lids. Heat gradually to boiling and boil for four hours. Remove the jars and seal at once. Store in a cool, dark and dry place.

If you have a pressure cooker, pack the jars into the cooker and raise the pressure to fifteen pounds and hold it there for one hour. Cool the cooker down so that no steam pressure shows on the gauge before opening the steam valve or loosening the lid. If the valve is opened while there is still some pressure, all of the moisture in the jars will be blown off as steam. Remove the jars and seal at once.

Any kind of meat scraps, stew, roasts, soup, sausage or steak can be canned successfully. It is easily prepared on a hot summer day and is always very tender and palatable.

Lamb makes a splendid meat for warm weather. The carcass is small and can usually be used up in warm weather by a family without much difficulty. The pieces or joints are also small. They can be salted heavily for a few days until you get to them, even in warm weather. Especially is this true if you have a refrigerator in the home. A variety of meats or any kind of food is always desirable.

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Where are the most Red-Tops sold? In sections where roads are roughest. Why? Because the car owners who must drive over difficult roads day in and day out soon learn what tire can be relied on to keep their cars moving and their mileage costs down. That is why their final equipment always narrows down to Red-Tops.

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The extra ply, the extra thick and tough red tread, are features which make this remarkable service possible.

The Fisk Line is complete from a good tire at a low price to the highest grade tire at a reasonable price.



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How to Raise a Herd of Good Dairy Cows

The Job Starts in the Calf Pen

By JOHN M. SHAW

CAN I afford to raise my calves?" This is a question which farmers often ask. When we realize that it costs about \$75 to raise a heifer to producing age, we see that the question has merit. Many heifers now being raised will not be worth \$75 when they freshen. "Can I afford to raise my heifers?" is then a live question for men interested in maintaining a milking herd.

From five to six million heifers are required annually to maintain our dairy herds in the United States supplying the "fill-ins" for the cows which for various reasons must be replaced.

It has been determined that three heifers must be kept each year for each group of ten cows in a herd to insure the maintenance of a herd of the same size over a period of years. All this suggests the expense involved in growing our cows on the farm. The alternative to this is to buy cows in milk and when they finish their lactation period, pass them on to the butcher or shipper. This is a method which a limited number can and do follow, but it really does not offer any solution to our problem. Five or six million calves must be raised each year, and someone must raise them. Consequently, by and large, dairymen must rear one-third as many calves yearly as they have cows in their producing herds. The question which logically follows this statement is, "How can I successfully raise my dairy calves?" This question is the one to which I hope to offer answers in this article. Let us admit at the outset that we are attempting to deal with the most difficult problem on the farm. Many men who are signally successful in every other branch of farming fail at calf raising. So we are dealing with a very common problem which affects the pocketbook of the average farmer who milks cows.

NO calf deserves the care and feed necessary to bring it to two years of age unless it is sired by a good, purebred bull. A very high percentage of our heifers have scrub bulls as their sires. Such heifers are liabilities wherever they exist. So it becomes our problem to insure our calves a parentage which can justify the expense of raising them. In addition to having its sire and dam selected on the basis of production, every calf should also be insured of health and vigor at birth. Such well-being can be expected only when the dam is free from abortion and tuberculosis. Contagious abortion is the most serious menace to dairy herds and generally results in weak or dead calves. Calves from cows so affected are doubtless more subject to disease than are calves from healthy cows. In case calves from aborters are kept, they should be fed milk from normal, healthy cows. Most dairymen are convinced that fall freshening is best so far as profits from milk are concerned. But profits from calves are also greater when the calves are dropped in the fall. Fall dropped calves require milk and grain for six or seven months, but at this age they are ready to go to pasture and secure most of their living there. Spring calves must receive a similar ration to fall calves for their first five or six months, they are unable to depend upon grass for any considerable amount of their feed and then, in their second six months, they must be fed during the winter season. Their fall dropped sisters get their second six months' feed in the pasture. There is also plenty of evidence available to prove that fall dropped calves, under comparable systems of management, are larger at their first freshening than are spring calves.

Certain precautions must be observed at calving time. Sanitary maternity pens with plenty of bedding should be provided whenever the weather is unsuited to pasture calving. Seldom is assistance necessary at this time and it is much better to avoid disturbing the cow wherever possible. As soon after birth as possible, paint the navel of the calf with iodine or some other disinfectant and then sprinkle it with powdered alum to hasten drying.

During the first two days of a calf's life, it is very desirable to leave it with its dam. When the calf is with the dam for two or three days, it is sure to get the colostrum milk at the right temperature, frequently and in small amounts. All these points are essential. Not only is it important that the calf have the benefit of the laxative effect of the colostrum milk, but recent investigators are inclined to believe there are properties in colostrum milk which afford protection to the calf from infections.

The calf which sucks for a few days is more vigorous and acquires a taste for milk so that when hand feeding replaces nature's way, it usually takes less effort to teach bucket feeding. In other words, the method only has to be taught, not both the method and the taste.

The whole milk period should include from two to four weeks, and a week to ten days should be allowed to complete the change from whole to skim milk. Feed the milk at a temperature of approximately 100 degrees as cold milk is a common cause of digestive disorders.

THE buckets used for feeding should be kept as clean as the milk buckets. On many farms the calf-feeding buckets and the milk buckets are washed at the same time and sunned on the same racks.

The amount of milk fed is of fundamental importance. Probably no other farm animal is so commonly overfed as the dairy calf. A safe rule to follow allows one pound of milk for ten pounds of live weight. This indicates about two to three quarts at a feed, depending upon the size of the calf. Feed even less amounts to weak calves at first. When the change to skim milk is made, a gradual increase can be made in the amount fed, but in no case need the amount be greater than fifteen pounds daily.

Feed the calves individually rather than in tubs or troughs. By the latter method the greedy calves rob the smaller ones, resulting in mutual detriment. Calves can show good returns for skim milk when fed up to six or eight months of age. However, in certain cases where whole milk is being sold, the period of milk feeding can be materially reduced.

Certain dried milk products, including skim milk powder, condensed buttermilk or semi-solid buttermilk, have been used successfully. A quite satisfactory substitute has been suggested by the Indiana experiment station as follows: Equal parts of hominy meal, linseed oilmeal, red dog flour and blood meal. It is recommended that one pound of this mixture be mixed with a gallon of water for a day's feed for a six weeks old calf.

Calves should receive grain at as early an age as possible. Farm grown grain gives very satisfactory results provided skim milk is fed. Equal parts of corn and oats make a very satisfactory grain ration and are perhaps more palatable than ground grain. A little linseed oilmeal added to this is desirable. In no case should calves be fed cottonseed meal in their grain ration as this feed produces a poisonous

(Continued on page 70)



Promising young sires representing four breeds



Robin Hood Cavalier's Lass holds the Iowa Ayrshire record of 12,265 pounds of milk and 529 pounds of butterfat produced when a four-year-old. Owned by Iowa state college

ment station as follows: Equal parts of hominy meal, linseed oilmeal, red dog flour and blood meal. It is recommended that one pound of this mixture be mixed with a gallon of water for a day's feed for a six weeks old calf.

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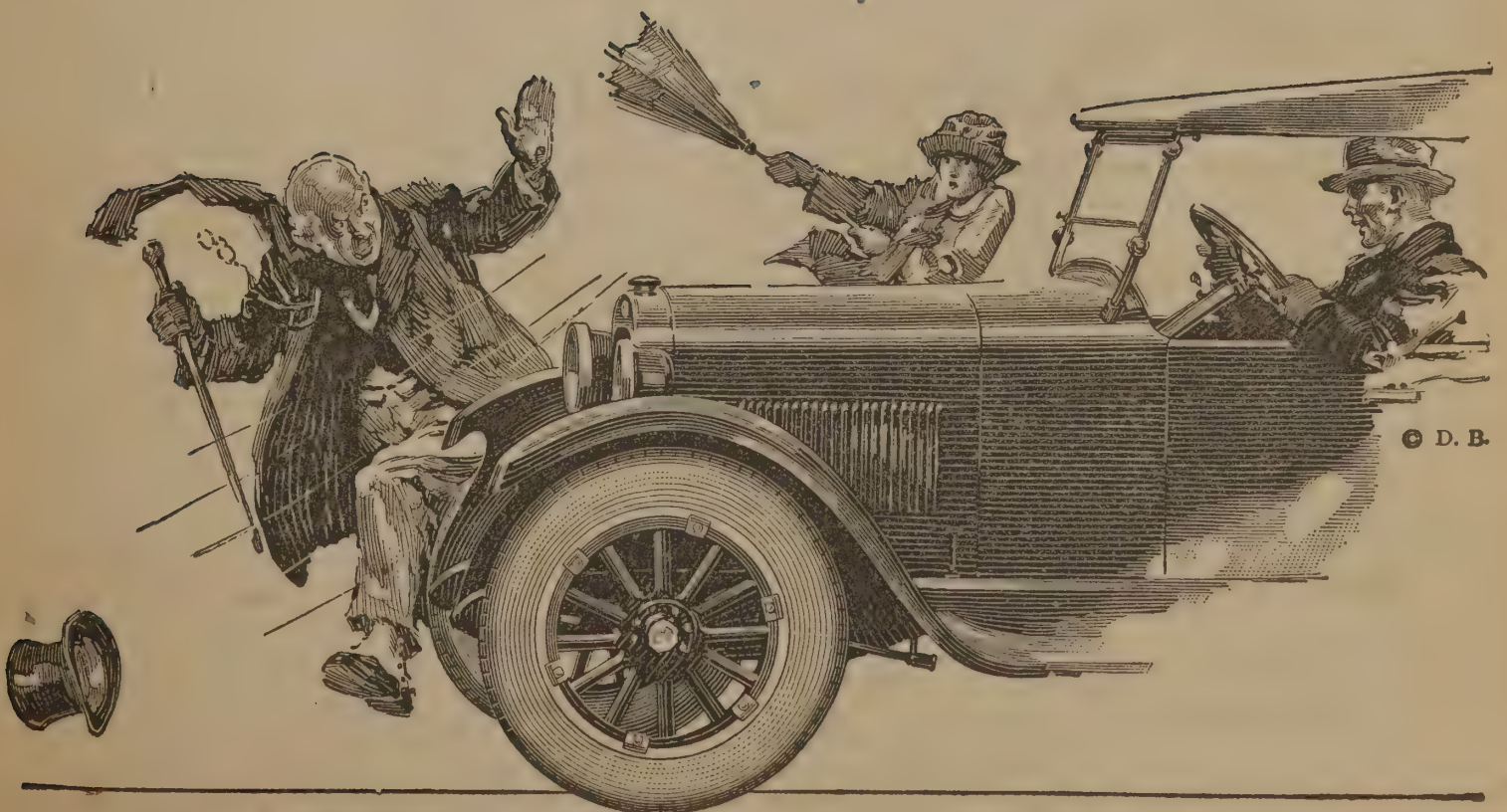
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run safely in the strongest winds. In any condition of wind or weather you may be sure that the Auto-Oiled Aermotor will give you the best of service. It is made by the company which established the steel windmill business 38 years ago.

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THE COW SCALPER

The worst crooks are those who operate just within the law. The boob who holds you up at the point of a gun for a few dollars or a few cents will sooner or later be a dead boob or land behind prison bars. His career is usually short, and then it is the penalty for him. The crook who is slick enough to swindle others out of their hard earned cash, just within the law, is a worse crook than his brother crook who uses a gun.

A fair example of the "law abiding" crook is the unscrupulous cow scalper. There is a big field for action here. On thousands of farms there are some poor cows—boarder cows, abortion cows, etc. These poor cows are a drag on their owners. They are for sale, but they are too thin for the beef markets usually, and are often rated as canners and cutters.

These boarder cows are a positive loss on any farm and the abortion cows are a real danger in any barnyard. Many fine herds have been ruined in this way by contagious abortion. Many an abortion cow has been picked up cheap by the cow scalper and sold to an unsuspecting victim at a fabulous price as a "dairy cow." Too late the victim finds out how badly he was stung. It is a safe rule for beginners to follow, that really good cows are not for sale, except at auctions and dispersion sales.

But cow scalpers also hold public auctions, so the inexperienced beginner must beware, and he will do well to seek the advice of some competent dairyman, who will explain to him the ideal dairy type and the safe way to buy.

The cow scalper does not care how hard you have worked to gather that winter feed. It means nothing to him that you feed up this high priced feed on a bunch of boarder cows that pays you back fifty cents for a dollar's worth of feed, with your labor thrown in extra. Very likely he is having great fun at your expense.

If your feed was worth \$500 in the fall, it will be reduced to \$250 in passing thru those boarder cows. Thus, instead of profitable production, you have exasperating reduction, with a big loss on the cost price of the cows which may prove disastrous to a beginner.

The direct loss to a victim of the cow scalper can hardly be estimated. The scalper has pocketed a splendid profit and lives on easy street, when in justice to his brother crooks he should be serving time in some penal institution.

But it is hard to reach this class of crooks and they will prosper so long as farmers are foolish enough to buy dairy cows in a haphazard way. Farm papers can and are doing a great deal to check this traffic thru publicity. The posted farmer does not bite; it is the other fellow who fills the pockets of the cow scalper.—C. A. H., Minn.

ABNORMAL MILK

Bloody milk from healthy cows is due either to external injuries or to swelling at the time of freshening. Small blood vessels are ruptured with the resulting blood tinge in the milk.

In the case of external injury, a good healing ointment is about all that can be done, says James W. Linn of Kansas. Severe injuries or those that refuse to yield when treated need the care of a competent veterinarian.

Relief from either cause is quickest when the cow is taken off succulent feed and the milk flow reduced for a time.



SOYBEANS FOR COWS

Cracked soybeans are equal or slightly superior to linseed oilmeal as a protein supplement for dairy cows. After three separate trials with this new feed, investigators at the Iowa experiment station have reached the above conclusion.

Furthermore, they demonstrated that soybeans do not cause scours under the conditions existing in the experiment. The basal ration consisted of corn silage, alfalfa hay, cracked corn and ground oats. Roughage was fed according to the capacity of the cows and the grain mixture according to production.

No tendency in the beans to become impalatable over long feeding periods was observed so long as a daily allowance of four pounds was not exceeded.

When the price for soybean seed gets lower and reasonably large acreages are planted, soybeans can be extensively used.

Soybean oilmeal, which is the product left after oil extraction, was also tested at the Iowa station. Its value was found equal to that of linseed oilmeal. The relative prices of the two feeds will determine which is the better to buy.

Planted with corn for silage, soybeans did not show any value, according to the Iowa tests. Work done so far indicates that corn silage is of practically the same value as corn-bean silage for the production of milk and butterfat. The tonnage per acre showed an increase of 5.69 percent where the two crops were grown together, compared with corn alone. The costs for seed and seeding largely offset the advantage in tonnage, however, making straight corn silage practically as economical as corn-bean silage.

In the first trial the percentage of beans in the silage was about 3 and the second 25. No advantage was noted in the increased percentage. There was practically no difference in the palatability.

A NEEDLESS WASTE

Cream separators are capable of making heavy losses if not properly cared for. With a very little attention, any reliable make will work perfectly for many years.

In Beadle county, South Dakota, James I. Jensen, the cow tester, found a machine this last winter that was losing its owner \$25 a month. It was not level. Frank Anderson, a tester for a Bremer county, Iowa, association, reports several separators wasting butterfat last month because the belts were slipping. One of his members stopped his loss by immediately buying a new bowl.

Karl Wiederrecht, a tester in Fayette county, Iowa, recently tested for a new member and found his separator losing its owner \$8.32 in butterfat each month. The owner told him it was running much better when the test was made than it did during the preceding summer and fall. Clarence White, another tester from the same county, states that one of his members saved \$10 a month by buying a new machine.

In the Brookings association of South Dakota, J. Harold Forby, the tester, found a machine last winter that lost \$29.44 worth of butterfat each month. It was replaced with a new one. The Lake county association tester, Albert J. Amberg, found seventeen machines running too much butterfat into the skimmilk. Minor adjustments fixed most of them.

THE QUESTION OF SEX

The common belief that male offspring is the rule when a female carries her young longer than normal is not well founded, according to a recent study at the Iowa state college.

The gestation periods of 369 cows in the experiment station herd were examined. No periods were considered where twins or premature calves were born. There were 189 male and 180 female calves produced. Bulls and heifers were carried the same length of time.

FACTS ABOUT A FAMOUS FAMILY



One of the machines used in harvesting "steel hay"—another economy effected by General Motors

Harvesting "steel hay"

In the manufacture of automobiles there is a form of waste best described as "steel hay." It consists of the shavings which result from machining steel parts.

Usually "steel hay" takes up valuable space and brings a low price as "scrap." But in General Motors factories it is chopped up by special machines into fine pieces which pack into a solid mass, save freight space and bring a higher price per ton.

Harvesting "steel hay" was inaugurated by General Motors engineers. It is a typical instance of the way in which General Motors, being a family of many companies, effects economies which add value to the product of each one.

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If You Must Buy Cows, Buy Good Ones

Then Give Them Good Care

By W. LLOYD KEEPERS



Harry Averill

HAD he wanted to go "Over the Hill to the Poor House," it would not have been a long trip for Harry Averill of Illinois, for his farm joins the Kane county home where all dependents of the county are kept. Harry had taken over the home farm in 1914 when his father was persuaded to move to the county farm as manager. With the farm Harry took over all the equipment including the dairy. Like many young men who have had to milk cows since boyhood, he was tired of the job, and in 1917 sold the herd and started feeding cattle.

Feeding cattle proved to be profitable during the war but the winter of 1919 and 1920 heavy losses were sustained. These losses were due more to the fluctuating market than to poor gains. After having been hit so hard in the feeding game, Averill decided that some change must be made if he was to keep on with the farm and pay for the land he had purchased. Past experience showed him that he must go back to dairying to get ahead. So back he went and his success has been so outstanding that the Illinois state college of agriculture used his records as an example of what can be done.

Here is his story as he told it to me when I visited him at his farm recently.

"We had always maintained a dairy herd on this farm and I had been milking cows since I was seven years old. It got to be a dreaded task, for I had lost all interest in cows. I had been farming the home place for three years and decided that I could make just as much money feeding cattle without the drudgery of milking. In 1917 I sold the dairy. As I look back I can see that it was a big mistake. The herd I sold was good enough that E. M. Clarke, at that time on the extension force at the state university, purchased most of the cows to be used in the experimental dairy the university maintained at Dixon, Illinois.

"I was renting the home place of 110 acres for share rent and had purchased a fifty-acre tract nearby. With this much land I knew that I should be getting ahead but the losses from feeding had been such a setback that some change was necessary. Of course, I was at the county farm quite a bit as father had charge of it and we changed work during threshing and silo filling. Thus I had a chance to watch the success they were having with the dairy herd there.

"Most particularly, I noticed the enthusiasm among the men and the interest they had in the dairy. I found that this interest was caused by the spirit of competition among the herds in the cow testing association in which the herd was tested. The desire to lead the association kept the men interested and they gave the cows more attention than they otherwise would have done.

"After several visits with the cow tester and the county farm adviser, I decided that dairying could be made interesting and that it was the most profitable type of farming for our community. When I went to the farm bureau office to locate cows, I was advised to buy them in Wisconsin where cows with cow testing association records could be purchased and all cows brought across the state line would be free from tuberculosis.

In November, 1921, I made a trip into northern Wisconsin and purchased ten grade Holstein cows having cow testing

association records ranging from 6,400 to 11,000 pounds of milk. These cows were bought with a sixty-day retest guarantee for tuberculosis. They were put into the Kane county No. 3 cow testing association in January, 1922.

"From the very first, the desire to lead the association and all associations in the state prompted me to give the cows the best of care. During the first year, bran was the only feed purchased. The cow tester helped balance a ration from the home-grown feeds consisting of corn, oats and barley with corn silage and a poor grade of alfalfa hay. Each cow was fed according to her individual production.

"The average production of the ten cows the first year I had them was 8,900 pounds of milk and 290 pounds of butterfat. By this time I found that it was not hard work to milk cows when you are interested. Starting the first of January, 1923, I milked the heaviest producing cows three times a day until spring work got too heavy. During 1923, I purchased some linseed oilmeal in addition to bran. When the herd finished last year in the association, it lead with an average production of 13,200 pounds of milk and 433 pounds of butterfat.

"In September, 1923, I had a chance to buy ten purebred, first calf heifers averaging thirty months in age, all free from tuberculosis and bred to a thirty-one-pound sire. They were offered with a guarantee of \$100 each for any bull calves from them when one year old. Fortunately for me, seven of the calves are heifers. After I had purchased these heifers, I wanted a good, purebred bull.

"The bull I wanted as soon as I saw him was Rock River Sir Johanna Hengerveld, a yearling bull whose dam had a record of 24,500 pounds milk and 1,079 pounds fat. I could not pay the price asked but wanted him so badly that the farm manager made me an offer whereby I was to take the bull but the farm

was to have an option on him in three years at the price I paid. Of course, there were certain restrictions on his management but I am able to follow them and will have three crops of calves from him without having to pay more than half the price originally asked for him. With the ten heifers and this bull, I hope to build up a high class, high producing, purebred herd in the three years.

As I look back over the last few years, I can see where the change came over me and why I am now so interested in dairying when I was so prejudiced against it a few years ago. In the first place, the farm adviser, the cow tester and others who persuaded me to go back to dairying deserve a lot of the credit, but most of it should go to the cow tester who taught me to keep records, to balance rations, to analyze the records, to keep a herd book and to select better dairy stock.

"This farm was always best adapted to dairying and it has been limed and phosphated until it will grow alfalfa anywhere. The alfalfa helps greatly in the feeding of dairy cows and I keep fifteen acres of rough land in alfalfa all the time. I do not believe in permanent pastures, so I use only sweet clover pastures which give more summer feed and add to the fertility of the soil.

"The four-year rotation of corn, corn, small grain and clovers gives enough feed for the dairy and feed of the right type for the proper ration.

During the last few years, soybeans have been grown in the silage corn and help reduce the amount of concentrated feeds necessary. Since going back to dairying, I have stopped growing wheat as I need all the ground I have for feed crops which pay me better when marketed thru the dairy. A small bunch of pigs fits in well with the cows and makes added profit.

The herd has been under federal (Continued on page 79)



Averill's Herd Sire



Two silos furnish the bulk in the roughage

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This is the car that has awakened the American public to a full realization of the tremendous benefits of a modern *all-steel* body. The benefit of greater protection! The benefit of greater endurance! The benefit of longer life! The benefit of owning a car that is fireproof!

This is the car noted for the greatly increased driving vision it affords the driver. Slender steel cornerposts take the place of bulky cornerposts of wood.

This, of course, means far greater safety in driving—especially in traffic. "Safety First" is a matter of "seeing the other fellow first".

This is the car that is making such a name for itself on the hills. Its power is a revelation to anybody who has been used to other cars of this class. Its getaway and pickup literally astonish you. And when it comes to economy, no car costs less to own and operate. *This is the car* acknowledged everywhere to be "the most automobile in the world for the money". Willys-Overland, Inc., Toledo, Ohio. Willys-Overland Sales Co. Ltd., Toronto, Canada.

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WHAT IS A SIRE WORTH?

"I have ten good heifers," wrote a dairy-
man to a breeder, "and I would like to buy
a good, cheap sire to head the herd." There are sires and sires, the cheap ones
usually turning out to be very expensive
when viewed in the reflected light of what
their daughters will do.

John Newman, a dairyman of Marshall
county, Indiana, has some records which
show the difference between the get of
two sires. Newman bought a cow and
four of her daughters. Two daughters
were sired by one bull, the other two by
another.

Since Newman has been keeping daily
milk records for years, he had a chance to
compare these two sets of daughters at
four and five years of age. The two cows,
the get of one sire, during their four and
five-year lactation periods, produced an
average yearly milk yield of 6,785 pounds
of milk and 194.5 pounds of fat.

The other two daughters, also during
their four and five-year lactation periods,
averaged 13,642 pounds of milk and 410.2
pounds of butterfat. One sire doubled
production over the other one. How
much more was he worth? Newman
believes he was worth eight times as
much.—I. J. M., Ind.

ARE YOUR HEIFERS THIN?

While growing heifers need not be
kept fat, good condition is necessary if
they are to develop as they should. Just
how to feed during the winter months is
a problem recently worked on at the
Ohio experiment station.

Three lots of four heifers each received
various rations. Lot three made the
greatest gains per day at the lowest cost
per pound. It was fed 25 pounds of corn
silage and 9.25 pounds of alfalfa hay
daily.

The next best gain was made by lot 2
which was fed 17.2 pounds of corn silage,
5 pounds timothy hay, 2.25 pounds corn
and cobmeal and 2.25 pounds of linseed
oilmeal. This lot also ranked second in
cost of gains per pound.

Lot 1 made the smallest gain per head
daily at the highest cost per pound. It
received a daily ration of 16 pounds
corn silage, 6.5 pounds alfalfa, 1.3 pounds
corn and cobmeal and 1.3 pounds of lin-
seed oilmeal. While the evidence is
against a grain allowance with good
roughage, in the case of thin heifers it
usually pays well to give them some
grain to bring their condition up to
normal.

GOOD SERVICE FROM MILKER

M. W. George, Bremer county, Iowa,
has used a milking machine for nine
years without trouble of any kind. He
believes that thoro stripping by hand
after the machine is thru will prevent
spoiled udders. He is milking thirty-one
grade Holstein cows this season and so
far has had no spoiled quarters. "Be sure
that the udder is stripped dry before
leaving it," he stated, "for this is the
cause of much trouble."

George has been milking a high grade
herd for eight years and is more enthusi-
astic about dairying than ever before. A
purebred bull of high producing ancestry
is increasing the milking qualities of his
herd. His ration, all home-grown, with
but a single exception, consists of clover
hay, 10 pounds; ground oats, 10 pounds;
oilmeal, 2 pounds, and corn silage, 30
pounds per day per cow.—G. C. T., Iowa.

Don't count your pigs before they're
weaned unless you have them on clean
ground.

Insure Your Corn Crop Now

Experts, Investigators for Farm Papers, and those
who know, all agree that seed corn is badly damaged
and that the only safe way to be sure you will have good seed
corn for next year's planting is to test it now before you sell
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test. Easy to operate. The Ideal Corn Tester will help you
increase the yield and profit on each acre. Pays for itself
twenty times over in one season. Thousands of Ideals are used
everywhere. The price is so low and the results so sure that
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SPECIAL SILAGE CORN BEST

Whether to use a variety of corn specially developed for silage purposes or to stick to regular field corn has long puzzled livestock men. Tests recently completed at the Indiana experiment station with dairy cows proves silage corn preferable when considered on an acre basis. Similar results were also obtained at the Ohio and Connecticut experiment stations.

Ton for ton the field corn silage produced slightly more milk and butterfat than the ensilage corn. However, the latter produced more feed per acre and thus made decidedly more milk and butterfat per acre than field corn silage.

The cows received alfalfa hay, a grain mixture composed of ground corn, either ground oats or bran and linseed, cottonseed or soybean oilmeal, and silage. Other experiments at the Indiana station show that the cost of milk production is reduced approximately thirteen percent by the use of silage.

HOW TO RAISE A HERD OF GOOD DAIRY COWS

Continued from page 68

effect in growing calves. The grain can best be fed following milk feeding. It takes the attention of the calf until the sucking desire is forgotten.

Hay for calves should be available from the first. By the time they are fifteen days old, they will be eating an appreciable amount. There is some uncertainty as to the kind of hay best suited for calves. Some dairymen have no bad effects where alfalfa hay is used for calf feeding, while others find that the calves scour badly. For this latter group, red clover seems to give much better results. It has been argued by some that if alfalfa is available from the beginning, there is less danger than if it is first fed after the calf is two or three weeks old.

Silage is a satisfactory calf feed if fed in moderation and care is exercised to remove all frozen or moldy portions. Calves at the Iowa state college dairy farm have shown more rapid and more economical gains when silage has been included in their rations.

Various figures have been given to indicate the feed requirements of a calf to six months. The following are from Eckles and are the average of the rations of seven calves: Whole milk, 360 pounds; skim-milk, 2,804 pounds; hay, 270 pounds; grain, 113 pounds. Average birth weight, 66 pounds; average weight 180 days, 303 pounds; average daily gain, 1.3 pounds.

Calf raising is an expensive proposition but it is the surest way for a dairyman to make progress. It costs in feed and painstaking labor to develop calves to the producing age, but only in this way can our herds improve. However, if calves out of the better cows in the herd are selected and a purebred sire of merit is used, and in the first two years of their lives if good care is given them, these heifers will pay good dividends for our investment in them. By way of summary, certain practices should be noted, as follows:

1. Avoid overfeeding. This is the cause of many of the digestive disorders in our calf herds. Underfeed rather than overfeed.

2. Feed milk (either whole or skimmilk) at about 100 degrees Fahrenheit. Cold milk is a frequent cause of scours.

3. Be sanitary. Keep stalls or pens clean, well bedded and sunny. Keep pails and all feeding utensils clean.

4. Feed grain, whole or ground, as soon as the calf will eat it. Corn and oats make a very satisfactory grain ration.

5. Supply either alfalfa or red clover hay from the first. Watch calves fed alfalfa for any tendency toward scouring.

6. Use a good, purebred sire. "Breed, don't just propagate."



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KELLY ever built"*

WHETHER you're just going to town or are starting on a long trip across the state, you want to feel reasonably sure that your journey is going to be made in comfort, and comfort means riding comfort as well as freedom from tire trouble.

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Try these new Kellys. In addition to their easy-riding qualities, they will out-mile any tire you have ever used.

KELLY
Flexible Cord



TRADE GRADES FOR PUREBREDS

UNDER the Illinois bull exchange plan now operating in that state, farmers can trade their grade and scrub bulls for purebred registered bull calves. This plan was launched for the purpose of assisting Illinois farmers to replace their grade and scrub bulls with purebreds. This work was started in December, 1924, and will continue thruout 1925. A good many farmers have already taken advantage of this opportunity and many exchanges are in process. While it is difficult to say just how many grade and scrub bulls will be replaced by purebreds, I know that at least fifty counties in the state are working on the project and that many farmers will own a purebred sire for the first time.

The plan is simple enough. Any farmer in the state who has a grade or scrub bull fifteen months old or over and wishes to exchange him for a purebred registered bull calf, gets in touch with the farm adviser in his county. He and the farm adviser go over the list of breeders who have agreed to furnish the purebred bull calves and select one or more breeders to get in touch with. In that way they locate a purebred calf. Then the grade or scrub bull is sold for beef (thru the shipping association, if possible) and the sales slip and check are turned over to the breeder (thru the farm bureau) as payment in full for the purebred calf.

Breeders Furnish Calves

The breeders who are furnishing the purebred calves have agreed to register, transfer and ship the calves to the farmers and to accept the receipts from the sale of the grade or scrub bull as payment in full for him.

If a farmer wishes to use the grade bull until the purebred calf is old enough for service, the breeder ships him the calf and allows him to keep the grade for a time.

Since this plan has been in effect, it has created a desire on the part of many farmers who have no grade bull to purchase a purebred calf. Undoubtedly, the breeders will sell many bulls as a result of work on this project.

Much credit is due the breeders in the state for the way they have gotten behind this plan to help push the grade and scrub out of Illinois. The plan was presented to approximately 100 breeders and 90 percent of them gave it their stamp of approval. Since then many others have joined in the work. They are not cooperating because of any immediate financial advantage, for in many cases the exchanges will be made at a disadvantage to them. They are looking ahead, for they realize that a good bull in a community may create a demand for others and that a desire for better cattle will come. Then, too, they know that about 80 percent of the bulls used in Illinois are grades and scrubs and that the problem requires the help of all who are interested in the dairy industry.

The creameries in the state are back of the plan and are helping with the publicity and are distributing posters to all cream stations.

The plan has been presented to 1,400 country bankers. They have reacted very favorably to it and are helping interest farmers in their communities in better bulls. Just recently a banker wrote in and

said two of the farmers in his community wanted to make exchanges. Others have written in wanting to know if the bull calves could be purchased.

No requirements have been laid down concerning the quality of the calves. The breeders who are interested in this work are the leading breeders in the state. They are cooperating mainly for the purpose of advertising their business and are not going to send out calves that would do them more harm than good. Nearly 90 percent of them are in cow testing associations and good production records will be available on most of the dams of the calves. In some cases calves are offered that are from dams with official records.

Most of the calves used in this work will probably be under three months old and in order to prevent any unnecessary loss due to neglect in feeding and caring for them, I have prepared a small circular on "How to Raise That Bull Calf." These are placed in the hands of the farmers by the farm adviser before the calf reaches his new home.

The following letter from a farm adviser is a fair example of the way this project has been received.

"We have a man by the name of Stuart Young, who has a Holstein bull about a year and a half old, which will weigh in the neighborhood of 800 or 1,000 pounds and he would like to exchange him for a purebred according to your exchange plan. We have had several other inquiries in regard to the plan. I believe the project is going over in very fine shape. Young is ready to exchange at once, but would like to keep his bull for several months yet."

This plan has appealed to the breeders because they saw in it an opportunity to render a real service and to do a little advertising in new and fertile fields. It has appealed to the farmers because it offers an opportunity for them to get a good herd sire without digging down in their jeans for a dime other than what they have invested in their grade bull.

We are not only placing a good many purebred bulls in the state, but are ousting the grades and scrubs with the same blow. —C. S. R., Illinois.

Note: C. S. Rhode, of the dairy department of the University of Illinois, is the originator of the above plan.—Editor.

PIN MONEY FROM GOATS

Many dollars have gone rippling into the bank account of Mrs. Richard E. Sims of Pulaski county, Arkansas, from her three milk goats. Besides the substantial additions to her account, Mrs. Sims has the pleasure of knowing that many sick babies have been brought to health and activity by milk from her goats. And nervous, run-down people with tired-out digestions or tubercular tendencies have been much benefited by the milk, too.

Mrs. Sims figures that it costs her about five cents a day to feed her goats. Some of the large herds figure at the rate of ten cents a day. The food must be very clean and dry. The only tendency to sickness among goats comes from feeding moldy or sour food or allowing them to sleep in damp places. They should always be sheltered from wet weather and given as much green food as possible.

Mrs. Sims feeds them clover, bran, cornmeal and middlings together with vegetables and crusts of bread. They feed daintily and tho not exactly with pink tea manners, they never seem to eat greedily or heavily. It has been estimated that five goats can be kept on the feed usually allotted to one cow. The milking period is nine to ten months, the quantity of milk increasing until the goat is three or four years old. From that time until they are eight or ten years old, they are in their prime. A purebred should give from four to six quarts a day.

Mrs. Sims has a goat which has given an

average of a quart of milk a day for twenty-two months, part of the time giving a gallon a day. For some months she kept a record of sales and found that she supplied five customers regularly, had plenty of milk for the family, and fed the goats' kids. As soon as possible, Mrs. Sims combines other food with the milk for the kids and has successfully used a commercial calf meal. She says lambs' meal is better if it can be obtained.

All three of the breeds, Toggenburgs, Saanens and Nubians, sell for about \$75 to \$100 each.—Mrs. A. H., Ark.

MAKES QUALITY COUNT

It is not accidental to obtain 16½ cents a quart for milk in a city where the average price is 10 cents a quart. It is because of special sanitary methods and extra care that the Fairfield Ayrshire Dairy is able to obtain almost twice as much as some other dairy in Topeka, Kansas.

When David G. Page founded Fairfield farms five years ago, he had a definite object in mind. He intended to specialize in nursery and hospital milk. He selected the Ayrshire cow and with a small foundation has already built up a good herd. The farm consists of 170 acres.

Page has always cooperated with the city dairy inspector in every way possible.



Willowmoor Mandy

The bacterial count on his product runs from six to eight thousand while the other dairies run from fifty to three hundred thousand. The barn is kept clean all the time. No manure is allowed to remain in the barn and there is no manure pile or pit on the farm. This valuable by-product is removed to the fields at once where it can begin its duty of increasing crop yields. The milk is taken from the barn to the milkhouse as soon as it is drawn from the cows. There it is immediately cooled down to thirty-five degrees. The cows' flanks are kept clipped and the udder is wiped off with a damp cloth before milking.

Page takes great pride in the nursery milk and extra care is exercised in producing it. A cow to be placed on the nursery list must be three to five years old. She must be in milk six weeks before she is placed on the list and she is removed six weeks before she goes dry. Page says that he does not know but what milk from old cows may contain as much vitality as milk from young cows, but he prefers young cows for the production of nursery milk. The milk from the remainder of the herd is used for the regular trade and retails at twelve cents a quart. The average test is four percent.

Page is building a herd from the foundation cow, Willowmoor Mandy, whose record is 13,650 pounds of milk containing 562 pounds of butterfat. He has two males and one heifer from this fine matron. Another good cow in this herd is Kate Douglas Moonshine that stands third in the Ayrshire roll of honor with a record of 17,219 pounds of milk.

The milk from this farm is sold as grade A raw milk. Page thinks something should be done to educate the people to the value of high grade, quality milk. The public really encourages the production of a low quality product because it is not willing to pay for the production of high grade milk.—V. W. McC., Iowa.

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First to the market, because Speed Wagon design makes time-saving travel *safe*.

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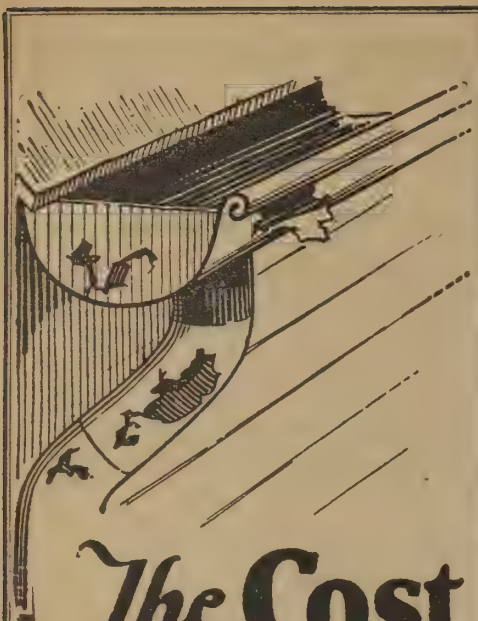
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Economical capacity range, 500 to 2500 pounds.
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The Cost of Feeding Rust

Somewhere about your house or farm buildings isn't there a rusted gutter and downspout or a rust-eaten roof flashing?

Sooner or later these will have to be replaced. And that means money wasted in feeding rust.

Any corrodible metal soon becomes food for rust.

Where metal parts are necessary on buildings, it pays to use COPPER. The first cost is slightly higher but COPPER never rusts.

It lasts as long as the building stands and that makes COPPER cheap compared to corrodible metals.

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Write for Book K-9 on good building. Sent without charge.



A COOLER ATTACHMENT

Henry Coombs in Clayton county, Iowa, has a little home made water cooler attachment on his cream separator. This attachment cost next to nothing and is not hard to make. A small sheet of tin and solder are all that are required for the job. It is a crude contrivance, as Coombs sees it, but answers the purpose just as well as tho it were expensive and artistic.

The cooler is set up beneath the spout of the separator and above the cream can. It is a cone of tin about fourteen inches high, ten inches in diameter at the base and three inches at the top. It has a tin bottom which extends out all around about an inch and a half. The tin is bent up a little at the outer edge and at the place where the cream can stands it is shaped into a small spout. A tin cap with a slit around the bottom fits into the top of the cone.

When milking is over morning and evening, the milk is carried without delay to the separator. A minute or so before, the cooler has been filled with fresh water from the well. As the separator gets into action, the cream runs out of the spout into the cap, down thru the slit onto the cone, where it spreads out in a thin sheet. As it flows down over the surface of the chilled cone, it is cooled. By the time it reaches the cream can, the thermometer shows it is twelve degrees cooler than when it came out of the separator spout.—F. L. C., Iowa.

NO LOAFERS IN THIS HERD

With his dairy herd ranking third in Iowa for January and one cow in the herd second highest in the state, William M. Voelker of Delaware county, Iowa, was able to make his books show the right kind of a balance. Voelker knew he had a profitable herd but it was not until the cow tester, Walter Olson, got a check on the herd that he knew just what each cow was doing.

The tester's report showed that fifteen Holstein cows produced an average of 52.5 pounds of butterfat for the month and the high cow in the herd made the excellent record of 124.5 pounds for the month. What is responsible for such a good showing? A visit to the farm shows that several things enter into the combination that builds up this kind of a herd on an average farm.

If the farm is any better than the neighboring farms, it is because Holsteins have been raised there for twenty years. Voelker's father started with Holsteins twenty years ago and William, or Bill, as he would prefer to be called, has continued to breed and weed for production. He says that the only sure way to build up a good herd, unless one has enough money that he don't need a herd, is to raise it. One outstanding feature about the Voelker herd is its uniformity. Fourteen of the cows carry Segis breeding. The bull now in service is a son of Sir Johanne Fayne.

Voelker says that a dairy cow will respond to good treatment. He has a good dairy barn, well equipped with cement floor, stanchions, box stalls and other practical conveniences. One thing that pays for itself many times is the tank heater. This keeps the water warm and the cows drink heavily and produce accordingly. He says it is easier to heat the water with a few corncocks in the tank than it is to heat it up with feed after it is in the cow's stomach. The cows are not allowed to roam over bleak, barren stalk fields in the winter. They get the stalks in the form of silage. They are fed but little corn except what is in the silage. They

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made their records on a ration consisting of oats, bran, linseed oilmeal, silage and mixed hay containing a large amount of clover.

The high cow in the herd freshened in October and topped the county association in November and December but she did not hit her full stride until January because she had been on limited rations to alleviate a caked udder. Voelker believes that it pays to milk the high producers three times a day when they are fresh. He has the cows freshen in the fall and then he has more time to take care of them during the winter and they produce the most milk while it is highest in price. They are down to two milkings when the rush of spring work comes and during harvest time. When the pasture gets short they are toward the end of their lactation period.

During the month of January, six two-year-old heifers averaged 62 pounds of butterfat. They are of Voelker's breeding and show that his herd is still improving.

Chester white hogs and silver laced wyandotte chickens make fine sidelines on this farm and they also make a good supplement to the monthly income. They are all noticeable at dinner time. Diversification with a definite purpose in mind has helped Voelker succeed.—V. W. McC., Iowa.

WHEN YOU BUY COWS

"I am sick and tired of buying cows. I have trusted men so many times and had the cows I bought of them turn out bad." This is what a man said to me the other day and I knew just how he felt about it. I think most of us do. It hurts, too, to pay out good money and not get cows that are what they are claimed to be. There is this to be said about it, however. Often when cows change hands, they do not do as well for a time for the new owner as they did for their former master. The conditions are different in the new home.

Many times cows have to stand the entire herd in a fierce battle before they really know their place. I have known cows I have bought to tire themselves out fighting; and it gives them a bad setback.

And then, it may be we feed differently from what the cow has been in the habit of having. I have known cows never to get up to their former yield of milk after a change of ownership, simply because they were not fed the same. It is a good plan to find out what the man you buy of has been feeding and how much. Also how he cared for the cow in the barn and elsewhere.—E. L. V.

IF YOU MUST BUY COWS, BUY GOOD ONES

Continued from page 72

supervision ever since it came from Wisconsin and that is one of the reasons for my success, for healthy cows are the best producers. I intend to keep my herd tested and to grow out all the heifer calves from the highest producing cows so that I will eventually have a herd of nothing but high producers. I believe it pays to grow the heifers until about thirty months old before freshening, as they will be larger and better producers.

"Would I quit dairying now and go into some other type of farming? I should say not. I intend to keep the dairy but will not be satisfied with it as long as I can improve it somewhere. Dairying is fun when you are interested in it, even tho you do have to milk cows."

South Dakota cow testing association reports for December show that the cow in each association producing the greatest income over feed cost was fed alfalfa or silage or both.

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Point is, he relied on an occasional inspection by his neighborhood Willard Battery Man. The trouble was discovered before his battery ran down. That saved him a recharge.

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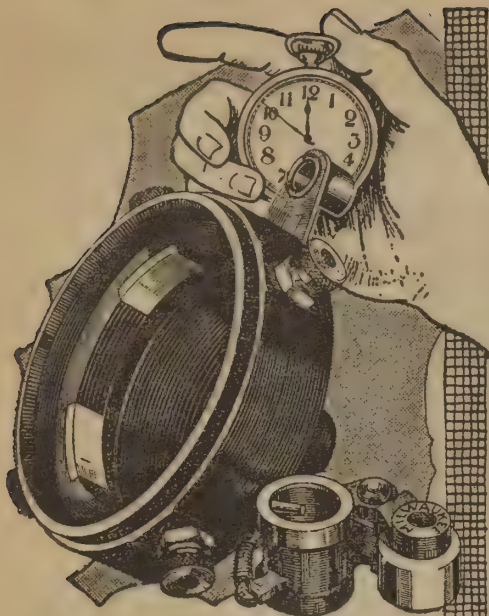
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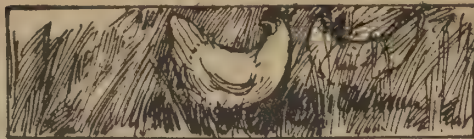
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Best For Balloon Tubes truck and all tubes, because e-lastic. Stretches with tire, can't tear out. 50c—Worth it.

Las-Stik Co., Hamilton, O.

Las-Stik

TUBE PATCH



LONG-VIEW METHODS ON LONG-VIEW FARM

Continued from page 17

As we walked down the lane in the center of that eighty acres, on one side was forty acres not fenced, on the other side ten acre fields. But it is not always fenced this way, for on down the lane we found one of these cross fences but lately put in and another but lately taken out.

There are those who stick up their noses at eighty-acre farms; they evade the question by saying that you can't farm an eighty-acre farm economically. But Marckel doesn't farm this eighty in ten acre fields. He has two permanent lots of two acres each near the buildings for the hogs and calves and, outside of these two lots, no fence is permanent. About twenty-seven acres of corn are grown each year and when two smaller fields are to be put to corn, the fence between them is removed making one large field which gives all the economies of plowing, planting and harvesting in a large field.

This man always has a sweet clover or alfalfa sod to plow down for corn. Since he has been growing alfalfa and sweet clover in his oats without difficulty, he has no scruples about plowing down an alfalfa seeding after it has been hayed only one year. And he doesn't care a whit whether he plows the alfalfa dormant or not.

"I don't care if a little alfalfa does come on in the corn ground. Last year, we chopped the weeds out with a hoe but left the alfalfa plants. In some hills where there were three corn stalks and an alfalfa plant, the corn leaves seemed black, they were so green, but wherever there was a tuft of timothy in the hill, the corn was yellow. Not that the alfalfa helps the corn much but it gets the most of its food from below the zone where the corn plants are browsing. Maybe the corn roots appropriate some of the nitrogen fixed by the alfalfa roots."

This farm contains a diversity of interests, each of them maintained in good shape. Tho there are only a few Jerseys, they are good ones, the pick of many years of breeding. They are given the feed and care which becomes purebred stock. There are not many farms that I know of where you can find a herd of eight cows whose milk is weighed periodically, whose feed is given on a "weigh" basis and whose stalls are equipped with individual drinking cups. Yet Marckel believes these things more important with the small herd than with the large one. There are only eight stalls in the cow section, yet behind you see the milk scales and sheets fastened to the wall, in front you see the big barrel that holds the grain mixture and the scales that hang close by.

"It pays to be systematic with even a small herd," Marckel observed. "You don't know how much milk your cows give unless you use milk scales," he went on, "and when you've got that far, you are only half way because you don't know how much money your cows are making unless you know how much they are eating." Unassailable logic that. Marckel does not long keep a cow that produces less than 300 pounds of butterfat per year.

Then, from his alfalfa-sweet clover-Jersey combination there is the skimmilk as a by-product, since cream is the market product. The return is further increased by putting the skimmilk thru purebred yet unregistered big-type Poland China hogs. This owner caters, not at all, to the purebred business but he does find that purebred hogs give him greater farm revenues because they are more uniform in

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Just Out—Amazing Invention—Beacon Lite Spark Plugs. You see the flash of each explosion in the cylinders. Tells which are firing right. Greatest improvement in spark plugs since gas engines were invented. Wonderful gas savers. Agents coining money.

\$90 A WEEK

Easy to make with new sure-fire plans. Sells on sight to every auto owner. Phillips, Ont., writes "Sold 2 dozen today, 3 dozen yesterday. Rush 10 dozen." Write for special Free Demonstrator Offer and FREE deal to introduce these wonder spark plugs in your territory. Write quick—today.

CENTRAL PETROLEUM COMPANY
603 Century Building Cleveland, Ohio

TIRES WITH 500 NAIL HOLES LEAK NO AIR

A new puncture-proof inner tube has been invented by a Mr. M. G. Milburn of Chicago. In actual test it was punctured 500 times without the loss of air. This wonderful new tube increases mileage from 10,000 to 12,000 miles and eliminates changing tires. It costs no more than the ordinary tube. Mr. M. G. Milburn, 331 West 47th St., Chicago, wants them introduced everywhere and is making a special offer to agents. Write him today.—Adv.

30 Days' Free Trial

Select from 44 styles, colors and sizes famous Ranger bicycles. Delivered free on approval, express prepaid, at Factory Prices. Bicycles \$21.50, up. \$5 a Month if desired. Parents advance 1st deposit. Boys earn small payments. Pay as you ride. Wheels, equipment half usual prices. SEND NO MONEY—Write for marvelous prices and terms.

Mead CYCLE COMPANY
DEPT. A-129 CHICAGO Write to us today

PATENTS

Write for my free Guide Books "How to Obtain a Patent" and "Invention and Industry" and "Record of Invention" blank before disclosing inventions. Send model or sketch of your invention for instructions. Promptness assured. No charge for above information. Clarence A. O'Brien, Registered Patent Lawyer, 649-A Security Bank Building, directly across street from Patent Office, Washington, D. C.



PRICES LOWER NOW ON Shaw Motor Attachment Makes any bike a dependable motorcycle at little cost. Send 2c stamp for Free Literature and Special Low Prices! SHAW MFG. CO., Dep 40, Galesburg, Kas.

FORD OWNERS Sell most efficient timer on market. Agents everywhere coining money—\$50 to \$75 a week. Haines sold forty first week. Wonderful sideline. Write AUTO SUN PRODUCTS CO., DEPT. 20, 853 WEST 6TH STREET, CINCINNATI, OHIO.

color and type and therefore bring more when he sells them.

You could only admire this farmer with his well-kept farm, his comfortable farm home and interested family. Here on this eighty acres were demonstrated the principles supporting the desire to live a satisfying life on the farm. Growing alfalfa and sweet clover, he has a big supply of valuable pasture and hay for the cattle and hogs; and in addition, the by-product from the cattle is turned to still better account by being converted into high-class pork.

All about the farm you see evidence of thrift, the effort to save what the farm produces. There was the concrete feeding floor in the barnyard so good corn need not be wasted in mud. There was the creep for the pigs so they might eat what was denied the older pigs. The water was piped from the house out into the barn and on into the hog lot so the shoats could have a plentiful supply of water with but little additional bother. And a whole mowful of clover hay to fend against winter. These are usually considered unmistakable signs of sufficiency and evidences that should become more numerous as we come to look upon the farm as a place to live a satisfying life among the things of nature rather than a place to eke out money enough to be able to retire to town.

HOW A PAINTER REFINISHES OLD FLOORS

Continued from page 16

to raise the bristles clear from the floor each time. The motion used is very similar to that you would use if tapping a nail head with a hammer, only more rapid and with the forward motion. If you have to start at a base-board it will be necessary to begin far enough away from it to work your brush, and then starting back on the stippled part go the opposite direction up to the base. It does not make any difference which way you go, so long as you follow the long way of the board. In all cases where you join on to the work, start back a few inches on that already stippled that no lap may be noticeable.

You will observe that the pattern produced by this method is a sort of lacy network or straw-like pattern which somewhat resembles the fine grain of quarter-sawn oak.

The drying speed of the work varies considerably. From fifteen minutes to an hour is usually long enough for the work to become thoroly dry. When dry, you will notice that it turns a dull flat color, sometimes having a dusty appearance. It is then ready to varnish. Use nothing but a good grade of floor varnish. Cheap grades often contain oils substituted for turpentine, which oils will cut the stippling loose and spoil your floor. For applying the varnish, use a good brush and plenty of varnish. Do not rub the floor with the brush any more than is absolutely necessary to spread the varnish. If you are doing the floor all over, or for any other reason are obliged to walk on the stippling, do so very carefully, being particular not to slide or twist the shoe while on the bare stippling. If you accidentally get some stippling on the woodwork while doing the floor, let it go until the varnished floor is dry, when it may be easily removed with a wet cloth without damage to either the woodwork or floor.

A stippled floor should be revarnished every two years or oftener if it gets heavy wear. With such care, a stippled floor should give good service for years. Because of this fact, and also because of the pleasing appearance, this finish is very popular both in the city and country home.

A grease coating on plowshares and mold board comes off a great deal easier than a rust coating.

It's New! BOSCH GOVERNOR

for FORDSONS

Here's a new helper for you! He's an expert at running a Fordson tractor. He keeps the engine speed smooth and uniform, no matter how quickly or frequently the load is varied. He's always alert, and extremely accurate. With the slightest increase or decrease in load, he adjusts the throttle instantly and automatically. He makes such accurate adjustments that there's no sputtering, choking or change of the engine speed.

He pays for himself in a few months—saves you gallons of gas by accurate throttle control—eliminates repair bills by preventing racing, stalling, and undue wear and strain on the engine. He makes plowing easier, and a throttle control man unnecessary when the Fordson is used for belt work.

The new Bosch Governor is the latest and most improved Fordson governor on the market. It is built with the same precision as the world famous Bosch Magneto—and is just as dependable. It is simple in design, easy to install and will outlast the tractor itself.

The Bosch Governor is made in two types as follows:

Type GT—for use with the regular Fordson timer \$25
(In Canada \$33.50)

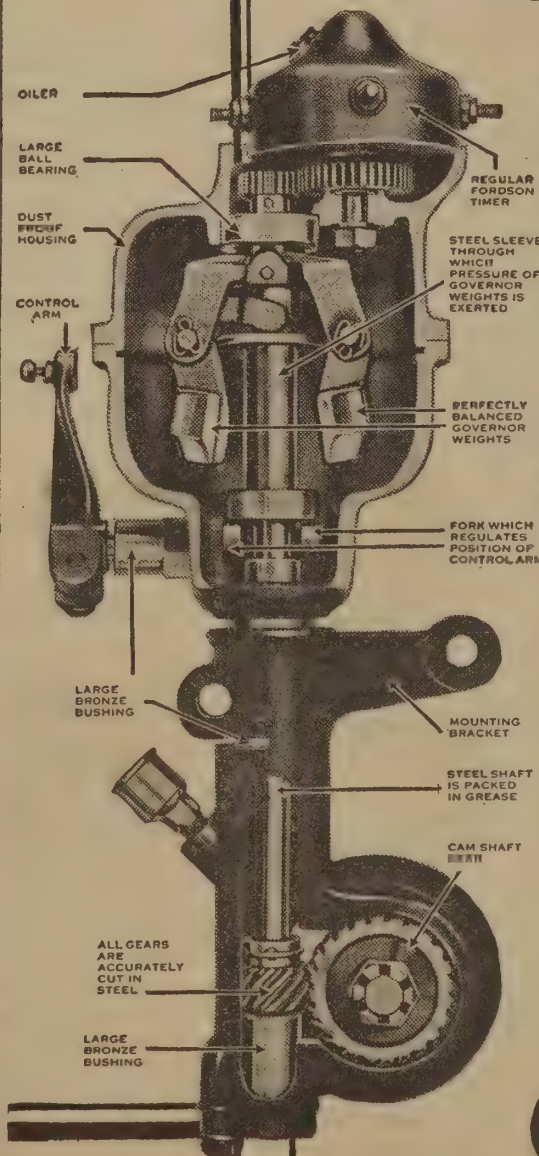
Type GM—for use with Bosch High Tension Magneto \$23
(In Canada \$31.00)

Sent C. O. D. if your dealer can't supply you.

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Raising Chickens Is Her Pet Hobby

And Mrs. Namur Makes Them Pay

By CARL R. FRITZSCHE

TO be continuously successful with poultry requires, like success in any other business, that a certain amount of personal satisfaction be gained from the work as well as that a profitable financial return be realized on the investment. It is probably the enjoyment of a combination of these two factors which has created an increasing poultry success for Mrs. Henry Namur of Clay county, Iowa. For to her, poultry raising is more than just work—it is a hobby. And who would not be successful with work and hobby combined into one.

However, poultry raising with Mrs. Namur is essential, for from those profits must come the money for endless household necessities. Nor can full time be devoted to the work for there are two robust Iowa babies in her home. There is also farm bureau work and, in the rush season she helps with the haying, cuts the oats and does the other innumerable odd jobs that the average farm wife busies herself at when not in the home itself. So we find in this home a practical farmer's wife, enthusiastically at work among her flock, yet willing to converse on the subject she knows and enjoys. And when one learns that she hatched twelve hundred fluffy chicks last year, he knows that she understands her work. Her suggestions are welcome—so we listen as she relates her chick raising experiences from the selection of the setting egg until the young bird reaches the care-free fry size. "In selecting eggs for setting, carefully avoid the large ones and the irregular shapes—not because they might not hatch, but because chicks from unusual eggs are generally weaker than those from the egg of average shape and size," states Mrs. Namur. No eggs are kept longer than a period of ten days, during which time they remain in a room having a temperature of from sixty to sixty-five degrees. Daily turning is a necessary part of their care.

Good fertility is assured by the use of sufficient and vigorous male birds. With the range flock one rooster is kept for every twelve to fifteen hens. Mrs. Namur knows of several cases where more hens per rooster are kept but has noticed that those flocks have low hatches due to a lack of fertility. Where chickens are closely confined, fewer than twelve hens per rooster gives best results. In fact, in her own pen of high class white rocks she will not keep over ten females to one male.

Because their laying ability is unknown, Mrs. Namur advises against the use of pullets in selected pens. "From mature hens which have passed thru a laying season, heavy producers can be selected by the culling process. And, since like tends to beget like, the old hen is desirable from the important standpoint of improving the flock's future production."

Before the eggs are put into the incubator, a thoro cleaning is required. The inside is well dusted with a rag dampened in some disinfecting solution. The trays are scrubbed with a soapy, disinfectant solution and placed in the sun to dry. The incubators, of which Mrs. Namur has two, receive this treatment after each hatch, getting a stronger disinfecting at the close of the season when lingering fumes can no longer do the eggs possible damage.

"The incubator must be regulated before receiving the eggs. Then follow the temperature directions which go with that particular make of machine. Once regulated, the outfit should run the entire incubation period without changing. Restless operators ruin many a hatch by continual bothering with the regulator."

During the incubation period, a few important details must receive attention. In addition to maintaining a proper temperature, these are—the keeping of a sufficiently moist air in the incubator and the ceaseless exercising of the embryo chicks.

"In exercising the embryo chicks," Mrs. Namur states that "the eggs should be turned in the morning and again in the evening. At this time take a few eggs from the center of the tray and carefully roll the rest with the palm of the hand. In between these two turnings roll the eggs four or five times dur-

ing the day, or whenever reading the temperature. This is easily done by pulling the trays part way out and carefully rolling the hands over the eggs without removing any from the trays. This gives the embryo its needed exercise."

Mrs. Namur relates an interesting past experience in connection with embryo exercise. A poor hatch was gotten from her earliest incubator experience. Then she learned from the poultry extension department at Ames the necessity of much exercise. Following their advice, her next hatch from the same two incubators showed an improvement of over one hundred chicks.

During the time of turning and curing the eggs, the doors of the incubator are always left open to permit fresh air to enter. This is well to do even tho the incubator is quite properly ventilated, because fresh air will heat more quickly and satisfactorily than foul air. "Watch the moisture. Keep a

saucer of water underneath the nursery tray below the egg tray during the entire hatch.

Otherwise the warm, dry air will dry out the egg and its developing chick until many are too weak to pip their way out. On breaking the eggs, the down on these chicks is found to be quite dry, and often is adhering to the shell.

Moisture in the air will prevent this." After they are hatched, Mrs. Namur's chicks receive only fresh water until they are seventy-two hours old. Grit and gravel are withheld until the first feeding because of the tendency of the tiny chick to consume too much and cause crop impaction. Then for three days the feed consists of four cups rolled oats to one cup of boiled egg yolks fed on a board. This is fed five times daily in amounts that they clean up in twenty minutes. From the sixth to the twenty-first day,

both a scratch and a dry mash feed are used. The scratch feed is made up of equal parts wheat, cracked corn and ground oats fed twice daily. The mash is first left before them an hour and a half with an additional hour increase each day. It is finally left before them at all times in little troughs made of laths. It contains two pounds of ground corn, one of rolled oats, three of bran or ground wheat, one of dried buttermilk and one-fourth of a pound of bonemeal.

When twenty-one days old, the chicks continue with the same scratch feed until eight weeks old, but change their self-fed dry mash to a mixture of ten pounds ground corn, ten pounds ground oats, ten pounds ground wheat, ten pounds middlings, two pounds tankage, two pounds dried buttermilk and one pound bonemeal. When asked if substitutes could be used for the above, Mrs. Namur replied, "By no means try to use a substitute for dried buttermilk and bonemeal. The dried buttermilk is very essential in the growing chick mash. Bonemeal is likewise of very great importance."

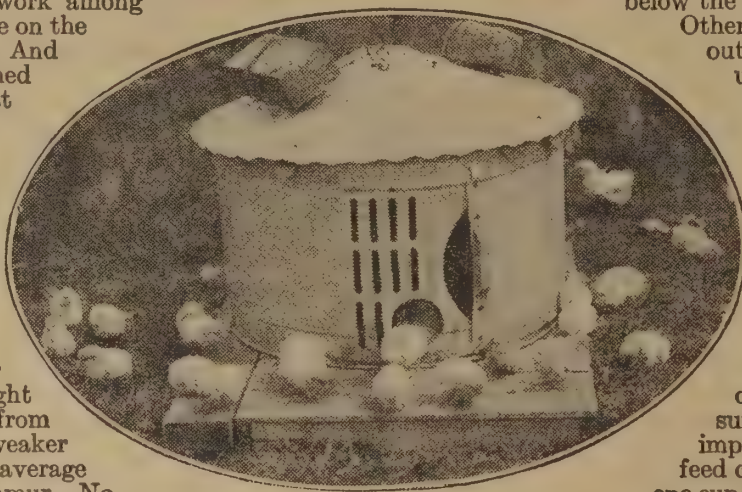
After the eighth week, a regular dry laying-mash is fed which consists of one hundred pounds ground corn, one hundred pounds wheat or bran, two hundred pounds ground oats and fifty pounds tankage. At this age the same scratch is used as before, but it does not need to be ground and the wheat can be eliminated.

Mrs. Namur mixes her own feeds. Milk, one of her most desirable of feeds, is fed only when there is the assurance that it can be continuously had for quite a long time. It is always fed sour. One of the best features of sour milk is its intestinal disinfecting qualities which helps to control white diarrhea and other troubles. Sweet milk can be fed but care must be taken to see that the souring surplus is never

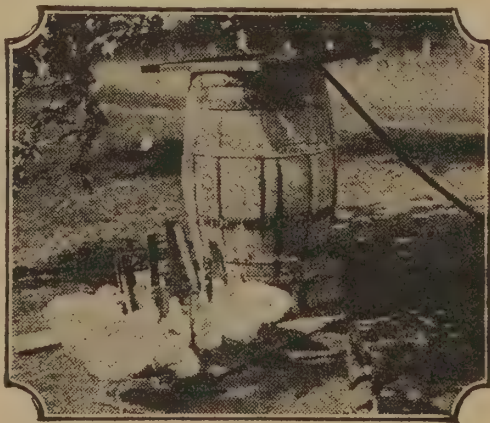
left in the chicks' reach. The necessity of using all sweet milk at all times, or else all sour, must be remembered—however, sour is preferable.

Chicks eating commercial feeds tend to show a fondness for alfalfa meal by picking those portions from the mixture first. This indicates the desirability of having alfalfa leaves as a scratch litter when green feeds are needed.

In rearing the young chicks, each (Continued from page 89)



Chicks do best on clean ground



Plenty of fresh water is very important



What battery costs the least?

The one sound basis for judging a battery is cost—not just original price, but final cost. What battery will do its appointed tasks in your car for the least expenditure of your dollars? The answer to that question has been found by millions of drivers to be EXIDE. Because: the price is reasonable to start with; the repair bills are usually little or nothing; the length of service is notably long.

EXIDES WORK IN MINES

Rugged Exide-Ironclad Batteries propel locomotives that haul coal in the underground passages of mines—one of the many important parts that Exides play in the daily life of the nation.

Long before you sound “taps” on an Exide it will have won your enthusiasm by its economy. Start economizing by driving to the nearest Exide Service Station. You can also get Exide Radio Batteries at our service stations and at radio dealers.

THE ELECTRIC STORAGE BATTERY CO., Philadelphia
Exide Batteries of Canada, Limited, 153 Dufferin Street, Toronto

White Diarrhea

Remarkable Experience of Mrs. C. M. Bradshaw in Preventing White Diarrhea

The following letter will no doubt be of utmost interest to poultry raisers who have had serious losses from White Diarrhea. We will let Mrs. Bradshaw tell of her experience in her own words:

"Gentlemen: I see reports of so many losing their little chicks with White Diarrhea, so thought I would tell my experience. I used to lose a great many from this cause, tried many remedies and was about discouraged. As a last resort I sent to the **Walker Remedy Co., Dept. 220, Waterloo, Iowa**, for their Walko White Diarrhea Remedy. I used two 50c packages, raised 300 White Wyandottes and never lost one or had one sick after giving the medicine and my chickens are larger and healthier than ever before. I have found this company thoroughly reliable and always get the remedy by return mail.—Mrs. C. M. Bradshaw, Beaconsfield, Iowa."

Cause of White Diarrhea

White Diarrhea is caused by the *Bacillus Bacterium Pullorum*. This germ is transmitted to the baby chick through the yolk of the newly hatched egg. Readers are warned to beware of White Diarrhea. Don't wait until it kills half your chicks. Take the "stitch in time that saves nine." Remember, there is scarcely a hatch without some infected chicks. Don't let these few infect your entire flock. Prevent it. Give Walko in all drinking water for the first two weeks and you won't lose one chick where you lost hundreds before. These letters prove it:

Never Lost a Single Chick

Mrs. L. L. Tam, Burnetts Creek, Ind., writes: "I have lost my share of chicks from White Diarrhea. Finally I sent for two packages of Walko. I raised over 500 chicks and I never lost a single chick from White Diarrhea. Walko not only prevents White Diarrhea, but it gives the chicks strength and vigor; they develop quicker and feather earlier."

Never Lost One After First Dose

Mrs. Ethel Rhoades, Shenandoah, Iowa, writes: "My first incubator chicks, when but a few days old, began to die by the dozens with White Diarrhea. I tried different remedies and was about discouraged with the chicken business. Finally, I sent to the **Walker Remedy Co., Waterloo, Iowa**, for a box of their Walko White Diarrhea Remedy. It's just the only thing for this terrible disease. We raised 700 thrifty, healthy chicks and never lost a single chick after the first dose."

You Run No Risk

We will send WALKO White Diarrhea Remedy entirely at our risk—postage prepaid—so you can see for yourself what a wonder-working remedy it is for White Diarrhea in baby chicks. So you can prove—as thousands have proven—that it will stop your losses and double, treble, even quadruple your profits. Send 50c for package of WALKO (or \$1.00 for extra large box)—give it in all drinking water and watch results. You'll find you won't lose one chick where you lost dozens before. It's a positive fact. You run no risk. We guarantee to refund your money promptly if you don't find it the greatest little chick saver you ever used. The Leavitt & Johnson National Bank, the oldest and strongest bank in Waterloo, Iowa, stands back of our guarantee.

Walker Remedy Co., Dept. 220 Waterloo, Iowa



KEEPS NO OLD HENS

"Very few hens in the ordinary farm flock are worth keeping after the second laying year," says W. J. Coffin, Bremer county, Iowa. "To make the farm flock commercially profitable, it is a good policy to sell the hens when they quit laying in their second year." The only exception to this, he claims, is in the case of the breeder of exhibition birds. He had a hen once that produced eggs at a profit until she was seven years old. This hen was capable of producing stock that sold far above the average price.

The keeper of a farm flock who feels that he has some boarders can make a big start toward better profits by a simple culling method. "Go to your henhouse between 12:30 and 1 o'clock at noon. The hens you find perched on the roost at that time will be better off on the market; as hens that are near laying condition do not roost at that time of the day," he says. "The good layers will be down scratching for food if the flock is properly fed."

This system will not work, however, if much feed which the hens like is dumped in on the floor where they can get it without working. The hens fill up quickly, then go to bed. This method of culling, coupled with the sale of hens after the second year, Coffin believes, will produce results in most any flock.—G. C. T., Iowa.

IT'S ALWAYS CULLING TIME

For several years Mrs. John Soles, of Neosha county, Kansas, has made a success in the poultry line. She keeps single comb white leghorns and during the winter months she is never bothered with the usual slump in egg production. I was over to her poultry plant one day recently and noticed a bunch of hens in the fattening pen. As it lacked several months of being the time usually set for the annual culling, I asked Mrs. Soles why the fowls were penned. "They are culls," she told me. "But," I began, "I thought fall was the proper time to cull." And then she explained her methods.

Her culling is never done. It is a never-ending process. Whenever she observes a bird that shows any signs of weakness, it is put in the fattening pen. As soon as the young birds begin to show development, they are constantly under inspection. All naked, stunted, or poorly developed birds are marked for sale or slaughter. The cockerels are marketed young and with them all pullets that do not run true to form or are not built as a good layer should be. This saves feed, as the pullet would have to be disposed of before the fowls were put in their winter quarters anyway, and by selling her earlier, you catch a higher market.

Mrs. Soles has a general culling of the laying hens in the fall just before the birds are put in their winter quarters. But at any time, if a hen shows evidence of not being profitable, she is marketed. The very early molters are disposed of as soon as they begin to lose their feathers. As a rule, Mrs. Soles does not keep hens after they are two years old, but sometimes an exceptionally good layer is kept until she is five or six years old. A laying hen is always profitable, regardless of her age.

Even tho your cockerels are purebred and from good stock, that is not sufficient reason for keeping them indefinitely. Whenever they cease to be alert and vigorous, they should be sold.

But don't make the mistake of selling fowls that are not in good condition. They may be fattened at home at small expense. The occupants of our pen are fed the usual dry mash and their grain consists entirely of corn. Buttermilk is kept before them at all times.—N. P., Neb.



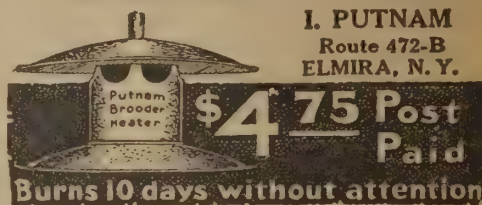
HOME MADE BROODER

Costs Only \$4.96, Complete

In an hour you can make a better brooder than you can buy. No tools needed but saw and hammer. It will do the work of 4 old hens and do it better. The materials, including heater, cost \$4.96.

I want you to try my Brooder and will send you plans for making it, together with a Putnam Brooder Heater, for \$4.75; all postpaid. Try the Brooder out and if you don't say it's the best Brooder you ever used, return the Heater in 30 days and get your money back. Your dealer will make you the same offer and guarantee. Ask him, but if he does not carry the Brooder Heater, send me \$4.75 and I will mail you a Brooder Heater and plans promptly.

Illustrated circular sent free on request.



I. PUTNAM
Route 472-B
ELMIRA, N. Y.

\$4.75 Post
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Burns 10 days without attention.

DR. HESS White Diarrhea Remedy

When diarrhea appears in your flock, stop it with Dr. Hess White Diarrhea Remedy. It works quickly. Give either in the feed or add to drinking water. Relieves diarrhea in fowls of all ages. Disinfect thoroughly with Dr. Hess Dip and Disinfectant to destroy disease germs. Dr. Hess & Clark, Inc., Ashland, Ohio

BABY CHICKS--FREE

Send No Money--We Trust You

15 popular varieties. From carefully selected Hogan Tested Farm Flocks. 100% Live Delivery Guaranteed by prepaid parcel post.

25, 50, 100, or 1000 Chicks Free

GIVEN for a little of your spare time. Just help us introduce our Poultry Remedies in your neighborhood and get your Baby Chicks FREE.

WRITE TODAY

For large folder describing our 15 money making varieties and full particulars, how to get Your Baby Chicks FREE. Miller Poultry Co., Dept. S, Kirksville, Mo.

Kerlin's Leghorn Chicks

\$5.73 Profit each in 1 year made by W. L. Mowen. World Famous White Leghorn 265-331 egg record stock. Greatest winter layers known. Highest quality BABY CHICKS, stock, supplies, shipped safely.

FREE Feed with chick order. Big Discount if ordered now. Valuable catalog free. Member Internat'l Baby Chick Assn.

Kerlin's Grand View Poultry Farm, Box 28, Center Hall, Pa.

SEND NO MONEY for SILVER LAKE CHICKS

Just mail your order, we ship C. O. D. and guarantee prepaid 100% live delivery of sturdy, purebred chicks from healthy, bred-to-lay flocks. Wh. Br. Buff Leghorns, 18c; Bd. Rocks, S. C. Reds, 14c; Wh. Rocks 15c; Buff Rocks, Buff Orps., Wh. Wyand., 16c; Mixed 10c. Bk. Minorcas, 15c.

Silver Lake Egg Farm, Box 5, Silver Lake, Ind.

BABY CHICKS

and eggs from real winter layers bred by experts. 12 varieties. Capacity 200,000 monthly. Live arrival guaranteed. Postpaid. Low prices. Illustrated catalog free. Standard Egg Farm, Box 18, Cape Girardeau, Mo.

CHICKS ON LOW TERMS

Baby chicks shipped parcel post prepaid and guaranteed. 20 kinds to select from. Order early and get special prices. Big illustrated catalog and poultry guide free. Colonial Poultry Farms, Box 857, Pleasant Hill, Mo.

Poultry and Pigeons For Profits

Foy's big Book. Contains many colored plates, encyclopedia of poultry information. Low prices on fowls, eggs, baby chicks and incubators. Written by a man who knows. Mailed FREE. Frank Foy & Sons, Box 5, Clinton, Iowa

GUARD CHICKS AGAINST DRAFTS

I have learned that it is not cool or cold weather that does so much harm to young chicks. It is dampness and drafts. Above all, guard the chicks against damp cold.

If the weather is cool but sunshiny, it is not apt to hurt the chickens to be on free range if they have a warm, comfortable brooder house with plenty of scratch litter to run to at will. But if the weather is damp and foggy, it is always best to keep them confined.

Whatever kind of a floor the brooder house has, it should be covered with from six to eight inches of dry, clean litter, and this is especially true if the floor is concrete, altho with a concrete floor, a covering of litter is not enough. An insulation of sand or dry earth should be used under the litter. This layer should be three or four inches deep and is a great protection to the chicks where early hatching is done.

The first week the chicks will not require a deep litter. A couple of inches of litter will be enough, but from that time on, they really scratch and the depth of the litter should be increased. Nothing will cause brooder pneumonia quicker than a damp floor or litter.

Don't have openings for ventilation in more than one side of the brooder house, or a draft will be the inevitable result. And the openings should be covered with muslin to allow a slow circulation of air at all times.

Crowding the young chicks is apt to have a very bad effect on the future production of the females, and on the vitality of the males. We find that 300 chicks are plenty to keep in a colony or brooder house 10x12 feet. And we have also found that we have better results if we do not put more than 250 chicks in a 500-chick brooder.—N. P., Neb.

THE CAPON MARKET

Producing capons presents a situation somewhat similar to making rabbit pie. To make a rabbit pie, first catch the rabbit. Before producing a flock of capons, make sure of your market. Where a suitable market exists or can be developed, the person who studies its requirements stands a good chance to make a comfortable profit.

Mr. and Mrs. D. L. Farnham of Calhoun county, Iowa, have figures from last season to show that they made more profit from capons than in selling cockerels or spring fries. Out of the same fattening pen they sold 43 cockerels for \$44.72 and 30 capons for \$57.32. The early hatched cockerels made the biggest capons.

The following table shows results obtained by the Farnhams.

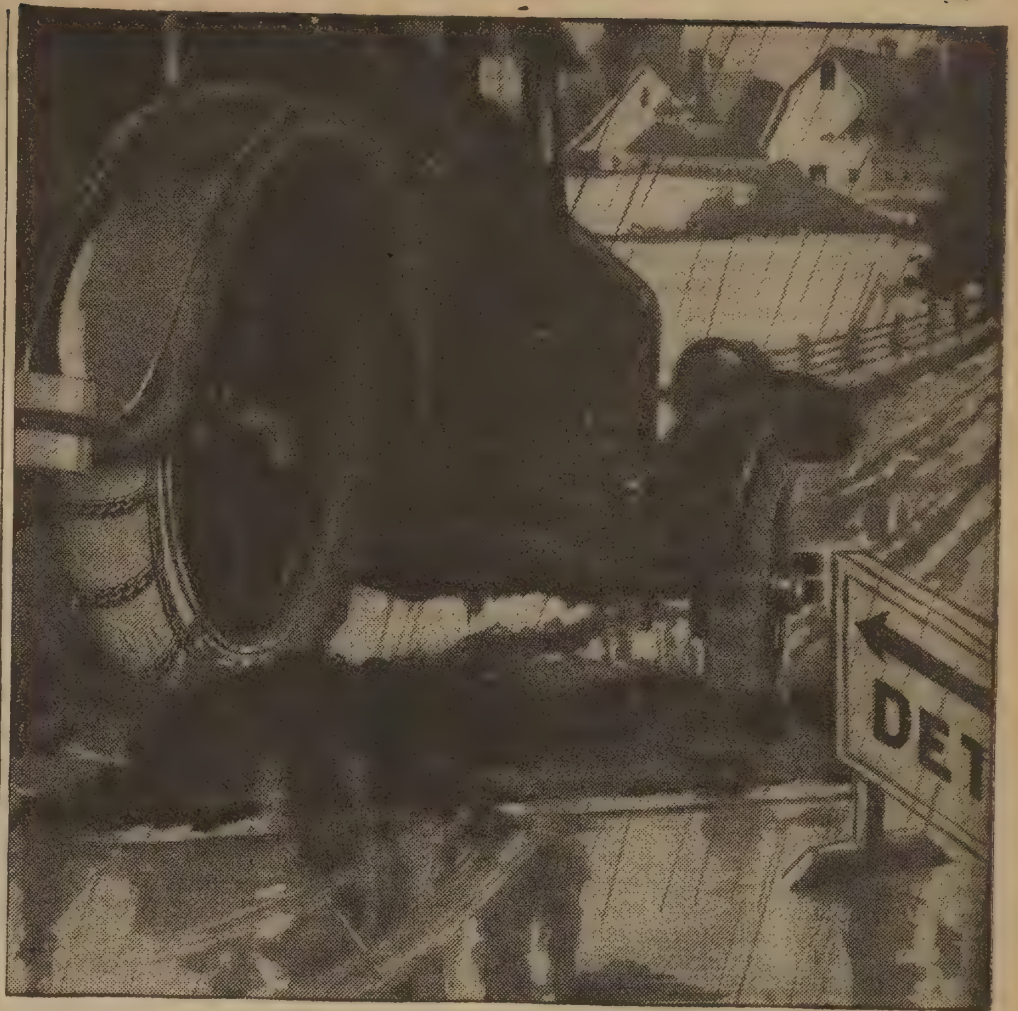
	Cost of Feed	Selling Price	Profit
Fries	30c	\$1.00	\$.70
Cockerels	52c	1.04	.53
Capons	52c	1.92	1.40

\$2.36 PROFIT PER HEN

The only way to really know whether the flock is returning a profit above feed cost and labor is to keep records. Mrs. L. J. Boehning, Newton county, Missouri, kept a careful record on her poultry operations during 1924, and at the end of the year found that she had made \$2.36 per hen, a much greater profit than is made on the average farm.

These records, kept in cooperation with the Missouri college of agriculture, proved to Mrs. Boehning that the care she gave her flock paid. Her results were due to feeding a balanced egg ration, keeping plenty of water and grit before the hens and housing them properly. "I think the most important item, tho, was the records," said Mrs. Boehning, "for I knew what I was doing all the time, and naturally took more interest in the flock."

C. F., Mo.



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for safety
for peace of mind
never be without WEED chains
—they're your one best friend
when you need them

WEEDS will bring you through when roads are muddy and slippery. They make your car a safe, sure means of transportation no matter when you are forced to drive.

And on wet hard roads they'll save your time — let you take it easy behind the wheel. Get

WEEDS now, so you'll have them next time you need them. Sizes for all tires, including balloons of course. For deep mud ask for WEED Extra Heavy Chains, especially made for earth road driving. At Dealers, Garages, Accessory and Hardware Stores everywhere.



You can identify genuine Weed Chains by their brass plated Cross Chains, galvanized Side Chains and Red Connecting Hooks, in addition to the name, WEED, which is stamped in every hook.

AMERICAN CHAIN COMPANY, Inc.
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WEED CHAINS

"You can put them on in a moment"



DOLLING UP THE CORNBELT EGG

IN the markets of London, Manchester, and a hundred other cities of Great Britain where it was my fortune once to spend some time, an observer is impressed by the varieties of eggs displayed for sale and by the uniform character of eggs from any one source, such as the Danish, the French, Italian or Irish eggs. Even the small Egyptian eggs and the round Chinese eggs have a degree of uniformity not common in the markets of this country.

When Pacific coast egg producers undertook not many years ago to grade eggs somewhat on the European fashion and to ship them to New York, they attracted much attention. You should know that on the Pacific coast poultry raising has become a specialty and the flocks comprise anywhere from 3,000 birds up, all of one breed and mostly leghorns.

The Pacific coast eggs proved to be of very good quality and sold on their good appearance at even higher prices than the nearby Jersey white which up to that time had always sold at the top of the New York market. Of course, the Jersey producers had an advantage of 3,000 miles when it came to the cost of getting their eggs to market, but the Pacific coast producers were able to make more direct connection with retailers by reason of uniformly good appearance and quality which left nothing for the wholesaler and jobber to do.

They even set up an auction where anyone could come and buy their eggs in ten-case lots and upwards, the quality and grade being so uniform that buyers merely looked at a handful of eggs from a sample on the floor and bid for ten cases or a carload with equal confidence that the eggs would be all alike.

Profit In White Eggs

It attracted attention of cornbelt packers where about half the marketable portion of the nation's egg supply originates. The first idea to attract them was the profit in white eggs. But they found that the preference for white eggs went a good deal deeper than the shell. The Jersey white and Pacific coast white eggs have pale yellow yolks and clear, transparent whites while the cornbelt eggs have bright reddish or brownish yolks due to the prevailing corn feed and sweet grasses. So it proved that there was no profit in sorting out the white cornbelt eggs for separate sale in New York.

But it set the cornbelt trade thinking how eggs native to the cornbelt might be made to find a market of their own, tho not a white egg market, perhaps, and they are doing some grading to find out what is in the cornbelt egg supply.

The North American cornbelt is the best natural egg country in the world and I hold this opinion after nearly a quarter of a century of activity in and about the egg industry.

The cornbelt egg is in a class by itself, favored by nature with size, color and a rich, bright yolk. If cultivated for itself and not to compete with a product foreign to the corn country, it will get along very well.

Pacific coast producers have apparently benefited by cooperative marketing and by developing certain definite markets in the East. While the prevailing thought about better marketing is direct marketing egg producers in the cornbelt are in the least favorable position to organize on a large scale for controlling the movement to final markets. The average size of flocks in the cornbelt is too small to inter-

est the farmer or his wife in taking a responsible part in a cooperative organization for distant marketing. The surplus of eggs moves in many directions according to season and demand. The automobile and truck buyers from neighboring cities come out to tempt the farmers to sell at their gates.

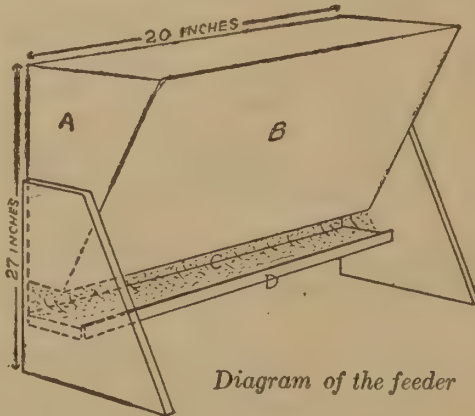
Producers in the cornbelt could, however, help themselves and eventually, perhaps, develop units for a larger organization later, if they would organize for very simple ends such as standardization on one breed for sake of uniformity in the eggs, and this could be done in a group only large enough for shipping two or more cases at a time. That is to say, not less than two cases in the fall of the year without holding eggs back but gathering and selling them frequently.

While part of the higher prices paid for uniform and good quality eggs is offset by the cost of materials and service necessary to produce and market them, there are good rewards for cornbelt farmers if they make the grade and connect up with a quality buyer in the right market, which is often their home market.

The total worth of the marketable portion of eggs produced in the cornbelt is not less than \$200,000,000 a year, and what, may I ask, promises a better yield for the cornbelt farmer than to develop the marketing possibilities of this cash-paying crop?—P. M., Iowa.

SELF-FEEDER FOR CHICKENS

The illustration shows a self-feeder which was made from a drygoods box, 20x15 inches in size. It was made by cutting the ends cornerwise one and one-half inches from the corners. The one side was left on and the other side was used for the face of the hopper which is B in the diagram. An opening of one and one-half inches was left in the bottom for the feed



to run thru onto feed board D in diagram. The other pieces of ends were reversed and nailed to the ends to hold the feed board. The feed board is four inches wide with a lath in front to hold in the feed. The feed board is two and one-half inches below the hopper. We fitted a board to the top for a lid. The hopper holds one-half bushel.—F. B., Mich.

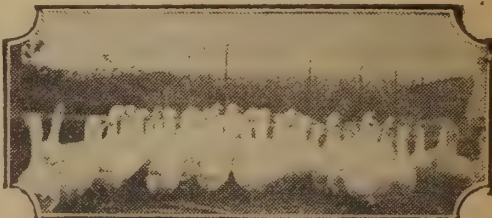
GROWING GESE

Miss Nellie Tatge, Benton county, Iowa, has grown geese so successfully that she is widely known as the goose girl. She keeps three trios, six females and three ganders. At mating time each trio is kept separate and an abundant supply of water is kept before them. If they do not have plenty of water, only a small percentage of the eggs will be fertile.

Miss Tatge sets the eggs under hens and has the geese lay three lots of eggs. She places five eggs under each hen. After eight days the eggs are tested and all infertile ones removed and cooked for little chickens. To test the eggs, she cuts a hole not quite as large as an egg in a pasteboard which is placed in front of a light. The egg is placed at the hole and if it is clear, it is infertile. Eggs that

have started to germinate will show blood spots. After the eggs are tested out, five fertile eggs are given to each hen and the other hens are broken up.

When goose eggs are set under hens, they should be set on the ground or as near the ground as possible as they require dampness. The old goose always makes her nest on the ground and when she is setting, she goes in the water and thus dampens the eggs. It is a mistaken idea that goslings can stand wet weather. They can stand very little water and should not be allowed out in the rain until they are two to three months old when their wing feathers cross on the back. According to Miss Tatge, goslings need plenty of grit, green grass and fresh water. Last year she lost several goslings from eating toad



stools which were growing near stumps. On another occasion she lost several which had eaten barberry.

When the goslings are thirty-six hours old, they are given a feed of green grass which is followed with some baked corn bread soaked in cold water. As they grow older, they are fed ground corn and cooked or soaked oats and meatscraps and allowed free range. They are fed in the morning and evening and kept in a sheltered pen at night until they are at least two months old. When they are old enough to move quickly, they are allowed to run with the old geese. They will not wander away if allowed to run with the old geese.

Miss Tatge grows purebred white Emden geese and they make a beautiful picture. They are also as good as a watchdog as they will give warning if any stranger or prowling animal comes near their pen at night. They do well in a hog pasture as the hogs keep down the toad stools. The feathers make a profitable by-product and each old goose will produce about one-fourth of a pound of feathers.

Many of the geese are sold for breeding purposes and the others are shipped to a commission firm. Miss Tatge's large flock of 100 white birds attract many visitors to the farm and she finds it a very pleasant and profitable sideline.

Last year she sold twenty dollars worth of eggs. She sold a setting of five eggs for \$1.75. When she was ready to sell the flock in the fall, she shut it up in small quarters and fed soaked ground corn in water with grit, green apples and cabbage. She always sells her surplus at Thanksgiving time.—V. W. McC., Iowa.

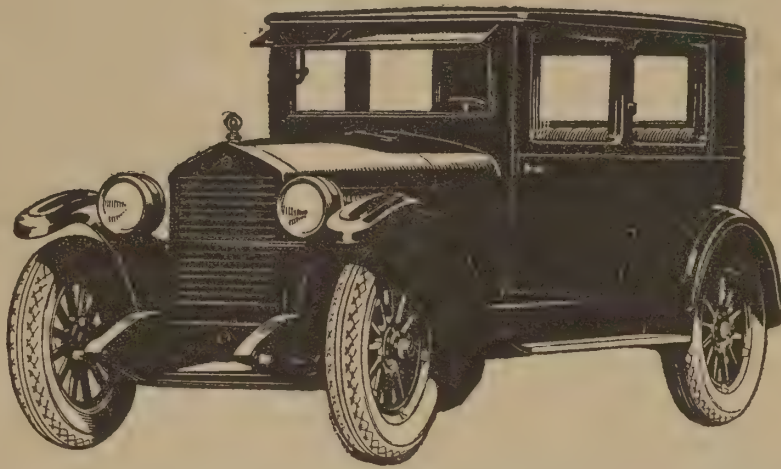
CULLING GOT RESULTS

Fifty percent production maintained for one year in the flock of Hack Brothers, Marathon county, Wisconsin, proved the value of constant culling and proper feeding. Poultry house room and feed is too valuable, they figure, to be squandered by a bunch of loafers. Any time a noticeable falling off in production occurs, they cull over their flock. Last winter these farmers were the only ones in their section who had eggs for sale.

Skeptical neighbors began showing such an interest in culling that the Hacks were asked to cull several neighborhood flocks. In one flock they found 40 culls in 100 birds; in another 50 culls among 115 birds. Several farmers, still doubtful, shut up their culls and fed them well for two weeks after culling but got no eggs from them.

Cheerful living is a habit, just as groaning about the "misery" in one's bones is a habit—and it's a lot pleasanter.

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Today's Essex is the finest ever built. It is the smoothest, most reliable Essex ever built. It is the best looking, most comfortably riding Essex ever built. And the price, because of volume, is the lowest at which Essex ever sold.

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USE THE ONLY
STARTING FOOD
COMPLETE
IN ONE
SACK

Best Since 1885

Forty years of tests and observation enabled Chamberlain to develop the chick food that avoids faults which cost poultry raisers millions of dollars. Thousands depend on it for success with chicks. See what it means to you. It's the original—the one and only dry, granular food containing Animal Proteins, Buttermilk and Cod Liver Oil ALL COMPLETE IN ONE SACK.

Experimental Stations, Colleges and leading poultrymen everywhere endorse dry, granular food most widely as the one right way to start chicks. Mash feeds when fed to tiny chicks too early, before the milling machinery is working vigorously, and when fed ALONE to any size chick, bring endless trouble. They clog and cling to the walls of the throat and crop. They sour and spread poisons through the chick's system and lower resistance to disease. Avoid loss from such causes. Every detail of the chick's delicate organism demands food in dry, granular form. Exercise is necessary to chick health and scratching for dry, granular food brings it. With food in this form the tiny gizzards and crops, the digestive and eliminative tracts all must do their share of work and function normally as nature intended. Play safe from the very start. Chamberlain's Perfect Chick Feed, impregnated with Cod Liver Oil, supplies every food necessary to speed chicks' growth from the very first day with amazing surety and convenience. The miracle of health-building and disease prevention by direct sunlight is rivaled by the correct use of Chemically Pure Cod Liver Oil with the finest known sources of all other minerals, proteins, vitamins and related elements needed to make chicks thrive indoors or out. Exceptional freedom from leg weakness and from death loss follow its use everywhere. See records of Department of Agriculture and of Experimental Stations all over the country for facts on Cod Liver Oil. Test this complete food at once.

Ask your dealer to show you chart of ingredients. It is a Wheat and Oatmeal basis Food, having Ground Meat, Bone, Charcoal and all other essential ingredients.

Don't be deceived. In buying dry, granular food, insist upon the Original Chamberlain's Perfect Chick Feed. Imitators are producing dry, granular no-corn feeds but they do not contain absolutely necessary Animal Proteins, Buttermilk and Cod Liver Oil.

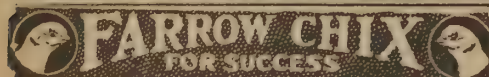
See why thousands declare it's the best feed known for starting chicks. If your dealer can't supply you, write for prices on 8-13, 25, 50 and 100-lb. sacks of Chamberlain's Perfect Chick Feed. Please send your dealer's name and address also. Write today.

COSTS MORE PER POUND
COSTS LESS PER CHICK



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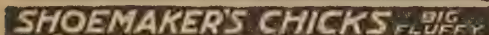


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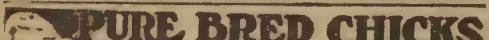


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Light and Dark Brahmas, W. Wyandottes, Barred Rocks, R. I. Reds, W. Leghorns. CATALOG FREE Riverdale Poultry Farm, Dept. 2, Riverdale, N. J.



SUNFLOWERS FOR SHADE

Many poultry raisers must provide shade by planting something or by making sheds. Sunflowers grow quickly and their shade is such that the chickens will enjoy it as they like a dense shade no matter how it shuts out the air.

A plot planted to sunflowers will furnish the shade desired and will produce a nice crop of seed as well, and sunflower seeds are valuable for feeding poultry. They will fall and the hens can do their own harvesting. From appearances, I judge the plot shown here was seeded broadcast and hoed or plowed with a hand plow. Given a chance to get a foot high, sunflowers will take care of themselves.—L. H. C., Kans.

MILK FOR HENS

The laying hen must have a ration containing about eight pounds of protein to each hundred pounds of feed she consumes if she produces anything like her maximum capacity. To supply this protein cheaply, Mrs. E. L. Robberson, Greene county, Missouri, feeds sour skimmilk. This is kept before the flock of brown leghorns all thru the day.

According to Mr. Robberson, it is cheaper than meatscraps and is a better way of using this byproduct of their own dairy herd than feeding the milk to pigs. One hundred pounds of sour milk is worth about 5.4 pounds of meatscrap for the protein in it, and besides the sour milk contains other valuable food elements. It also serves to keep the chickens in a healthier condition, says this successful poultry woman.—C. F., Mo.

KEEPS INCUBATORS BUSY

On the farm of Ross I. Miller, Cass county, Iowa, a flock of 400 single comb white leghorn layers and a small herd of Jersey cows provide the principal income of the farm. Miller has the main care of the poultry thruout most of the year, but Mrs. Miller takes charge of the hatching operations in the spring and summer.

For the past two or three years, Mrs. Miller has earned a snug sum each year thru the sale of baby chicks and custom hatching of eggs for neighbors. They have made no heavy investment in hatching equipment because it is only an incidental business with them. Their three incubators, which are kept in a brick-lined vegetable cave, have a total capacity of 1,000 eggs.

Early in the spring they hatch the chicks required for their own use. From then on up to about the first of August the incubators are kept going at full capacity, incubating eggs from their own flock and in custom hatching for others. Mrs. Miller charges ten cents per chick for those hatched from eggs from their own flock. The rapidly increasing demand for them is most probably due to the exceptionally low price for a chick of superior quality, for the Miller flock averaged 135 eggs per hen during 1923. For custom hatching the charge is five cents per chick hatched, which is somewhat unusual, since ordinarily the charge is a flat rate per egg, regardless of the number that hatch.

Thruout the spring and summer, the surplus eggs from the Miller flock are sold to a nearby hatchery at fifteen to

twenty-nine cents per dozen above current market prices. When asked whether her prices were not rather low, Mrs. Miller replied, "Yes, they may be low, but we make a nice profit, and that is all we want. We have no expense except the operation of the incubators. Those who buy our baby chicks come to the farm for them and in custom hatching, neighbors bring their eggs and later come for the chicks."—W. C. M., Iowa.

RAISING CHICKENS IS HER PET HOBBY

Continued from page 82

batch is raised on clean ground. This is made possible by the use of a portable brooder house—a brooder should never be stationary. Mrs. Namur's brooder house is an 8x12 shed type with plenty of sunlight and ventilation from the three large hinged windows on the south. No floor is used, which is a matter of health protection. The ground where the brooder is placed quickly warms when the stove is once started. Special care is taken to see that underdrafts do not work thru the earth floor.

The reason for using a portable brooder house which can be moved to clean ground or to ground which has not harbored poultry for three years, is one of disease control. This process is one of the effective control measures for any disease, but worms in particular can be controlled by this method.

Altho a coal burning outfit cannot be improved upon, a kerosene hover is used. Mrs. Namur's recommendation is that 350 chicks are enough to put with the average 500-chick hover. When more are added, there is great danger from overheating or chilling, which causes diarrhea with its accompanying heavy losses. By following this method last year she was able to raise 305 out of one hatch of 315, whereas by using the crowding method she has lost as high as 250 out of 750—an expensive one-third loss.

"Three conditions, outside of using musty, poisoned feeds, are the source of the great majority of chick troubles," according to Mrs. Namur. "These are overcrowding, overheating and chilling. These latter two are nearly always directly caused by the first. When the chicks are not crowded under the hover, they mill back and forth. Those to the outside moving in when cool, and those from the inside working back when too warm. This keeps them under ideal temperature conditions, which is the biggest factor in controlling diarrhea.

Never try to raise two batches of different ages together. The results will most surely be disastrous. Even when Mrs. Namur tried to do this by allowing the youngest chicks to pass thru to the hover under a wire creep, the older ones crowded to the wire, overheating the youngsters, and then crowded and overheated themselves. There is no workable system of overcrowding.

"Hatch early," is Mrs. Namur's last advice. Pullets have to reach a certain maturity before they can begin to lay. If they do not reach that maturity before cold winter weather sets in, most of them will remain a bunch of winter boarders. And generally very few of those which do not get to laying by early winter ever attain even the average production of the flock. Experience has proved that the best layers are always found among the first fifty percent of the pullets to begin fall laying. Her hatches begin in March, which means November first eggs.

Mrs. Namur is one of the Iowa state college extension department's poultry record flock members—one of the duties of which is to keep accurate yearly records of her entire poultry business. Her main flock is buff rocks, but her specialized efforts are now being given to the white rocks which will ultimately be the only breed raised.

PAN-A-CE-A

takes care of the little-chick ailments

INDIGESTION — Diarrhea — Leg Weakness — Gapes.

It will pay you to look well to the digestion of your flock right from the start.

Indigestion is responsible for most of the bowel troubles.

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Pan-a-ce-a contains Nux Vomica; that promotes digestion—calls into healthy action every little chick organ.

Pan-a-ce-a contains Quassia, which creates a healthy appetite.

Pan-a-ce-a contains Iron to enrich the blood, essential to little chick growth.

Pan-a-ce-a regulates the bowels—keeps the chick's system free from poisonous waste materials.

No indigestion, no diarrhea, no leg weakness, no gapes, where Pan-a-ce-a is used.



REMEMBER—When you buy any Dr. Hess product, our responsibility does not end until you are satisfied that your investment is a profitable one. Otherwise, return the empty container to your dealer and get your money back.

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Dr. Hess Instant Louse Killer Kills Lice

NOW EASY TO PREVENT WHITE DIARRRHEA

This dread bowel trouble gets in its deadly work from the first day of the chick's life. You must start at the same time—from the very first day—to kill the germs.

It's easy now to keep your chicks from it. Simply put a little B-K in the chicks' drinking water for the first ten days. Disinfect the incubator before the hatch to prevent the germ getting into the eggs. Spray the pens with this amazing germ killer to destroy the germs spread in the droppings. That's all there is to it. And it works.

B-K is the greatest and safest of all germ killers. Eleven years proved success. No acid, no poison, no bother. Your dealer has B-K in 10-oz. and



quart bottles and gallon jugs. Money back guarantee. Try it at our risk.

Haven't Lost One Since
"After losing 150 chicks from White Diarrhea," writes Bloomingdale Farms, "we got some B-K and haven't lost a chick since. A few cents' worth did the trick."

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Please send FREE and POSTPAID your valuable Bulletin No. 213-G on WHITE DIARRRHEA and BOWEL TROUBLE IN BABY CHICKS.
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80 Egg Size \$11.95; Copper Hot-Water Tanks—Self-Regulated Safety Lamps—Egg Tester—Thermometer and Holder. My Double-Walled Hot-Water Belle City Brooders are Guaranteed to raise the chicks. Save \$1.99—Order Incubator and Brooder Both. Send Only for

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CAUSE OF "GRASS EGGS"

Perhaps there is no poultry raiser in the country who has not been puzzled in the spring of the year about how to prevent the yolks of eggs from taking on a greenish hue which is often a drawback to their marketing qualities.

For years this tendency has been fought against, but always somewhat blindly since no one has heretofore been able to discover the cause of the condition of discolored yolks or "grass eggs" as they are commonly called among poultry raisers.

Professor L. F. Payne, head of the poultry department at Kansas state agricultural college, has found the cause and the measures to be used for the successful combating of the condition. He decided to experiment with his own hens in an effort to obtain some satisfactory solution to the problem.

Accordingly, he divided his flock into two lots, confining part of his hens to a small pasture of sprouted oats and green wheat. To the rest he gave access to a certain small weed in the yard which he had noticed them eating freely.

Inside of four days the eggs of the hens feeding on the weed showed the olive yolk and greenish white characteristic of "grass eggs." After running the test for a period of two weeks, the experimenter became convinced that the small weed known as shepherd's purse was causing the trouble. The weed is a member of the mustard family and contains large amounts of sulphur and tannin.

During this same period, the eggs of the flock feeding on the fresh green plants had the normal orange and yellow yolks and clear whites.

Preventive measures suggested in correcting this undesirable condition are either to confine the fowls in the spring or to supply them with plenty of green feed during the winter so that they will not be so prone to fill up on any form of greenness in the early spring months.—M. F., Kans.

PROTEIN MAKES CHEAPER EGGS

Hens cannot produce eggs profitably on rations made up of grains and grain byproducts commonly produced on the farm. This is the conclusion of H. L. Kempster of the Missouri agricultural college. He bases his opinion on ten years of feeding experiments conducted at the Missouri station.

The use of meat scrap, tankage, sour buttermilk and dried buttermilk resulted in an egg production per hen of 117, 120, 125 and 112 eggs respectively as compared with 61 eggs in the check pen receiving no animal protein. The cost is the chief factor in determining which to use.

Mashes containing 15 percent or more of meat scrap or tankage gave uniformly more satisfactory results than when smaller amounts were used. For white leghorns the most suitable amount of meat scrap or tankage is around six pounds per hen per year. Meat scrap, tankage or milk products reduced the amount of feed required to produce a pound of eggs nearly one-half.

Cottonseed meal added to the mash did increase production. It is thought certain mineral deficiencies are responsible and experimental work will continue with cottonseed meal, linseed oilmeal and gluten meal.

The ratio, used thruout the experiment was adjusted so that approximately two-thirds consisted of scratch feed and one-third mash. In earlier work the scratch feed consisted of two pounds corn and one pound wheat. Sometimes it was corn alone and later oats replaced the wheat. The basal portion of the mash was made up of equal parts bran, shorts or middlings and cornmeal. To this base the various protein concentrates were added.

\$13.25

140
EGG

Don't take any Chances—find out what an incubator is made of before you buy. Wisconsin are made of Genuine California Redwood. We give 30 Days' Trial 10-year guarantee. This famous 140-Egg Incubator only \$13.25. With Hot Air Brooder both only \$17.75



WHY PAY MORE 30 DAYS TRIAL

180 Egg Size \$15.75, with Brooder \$22.00
250 Egg Size \$22.75, with Brooder \$31.00
340 Egg Incubator \$30.75
500 Egg Incubator 45.50

Incubators have double walls, air space between, double glass doors, hot water, copper tanks, self-regulating. Shipped complete with all fixtures. Set up ready to run. Order direct or send for catalog, which shows larger sizes.

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BACK IF NOT
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Baby Chicks from Quality, heavy laying stock. We have one of the largest and oldest hatcheries in the Middle West. Why not benefit by our many years experience in mating, breeding and hatching 100% live arrival. Prepaid. Every chick guaranteed. Catalog Free. Loup Valley Hatchery, Box 499 St. Paul, Neb. Member International Baby Chick Association.

RAISE YOUR CHICKS

Others do it. So can you. Don't wait until your chicks die like drowned rats with white diarrhoea and gaps. Give them WACKER'S CHICK TABLETS in the drinking water from the start, then your chicks will grow like weeds and it will be easy to raise 90 to 100% of them. Ask anyone who has used WACKER'S CHICK TABLETS. RESULTS or your MONEY BACK. 1 box, 600 tablets \$1.00, 3 boxes \$2.25. Sold nowhere else.

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BABY CHICKS For 25 years we have hatched and sold chicks. Flocks inspected and culled. Heavy Layers 100% Live Arrival, Postpaid. Wh. Br. & Buff Leghorn, 60, \$7; 100, \$13; 500, \$62. Barred & Wh. Rocks, Reds Minorcas, 50, \$8; 100, \$16; 500, \$72. Mixed, 100 \$10.50; 500, \$50. 10 other breeds. Free Catalog 20th CENT. HATCHERY, Box F, New Washington, O

CHIX—SUPERIOR QUALITY
At fair prices. Pure bred. Rocks, Reds, Anconas, 100, \$14; Leghorns, \$12; Wyandottes, Wh. & Buff Orpingtons, \$16; Brahmas, \$18; Assorted, \$10.50. 100% Live Delivery Postpaid. Free Catalog. D. 7. ILLINOIS MAMMOTH HATCHERY METROPOLIS, ILL.

CHICKS 12 varieties, 2500 daily. Vigorous, healthy purebreds, from egg-producing flocks. 100% Live arrival, postpaid. Leghorns, 100-\$14. Leftovers, 100-\$10. Write for free catalog. Bush's Poultry Farms, Dept. K12, Clinton, Mo.

BABY CHICKS, FOWLS, EGGS
Most profitable purebred Chickens, ducks, geese, turkeys. 24 years with America's finest poultry. Northern high-bred egg producers. Prices low. Catalog free. ZIEMER'S POULTRY FARM, AUSTIN, MINN.

Money Maker Chicks
from prize winners at many Shows. Ohio Accredited. High egg production fills your pocketbook. Every chick guaranteed to live. Free catalog. Middlepoint Hatchery, Dept. S, Middlepoint, Ohio

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EGGS PARTRIDGE ROCK EGGS—Nottzger's Strain—\$1.50, 15; \$7.00, 100. Postpaid, Insured. Checks accepted. Geo. Cordell, Kearney, Mo.

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The quality of Superior baby chicks is the result of twelve years experience in careful breeding and hatching. Our stock includes such world renowned heavy laying strains as Tom Barron and Hollywood White Leghorns. Write for special low prices and free catalog.
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All our Flocks are Inspected by an Authorized Inspector of The Ohio State University and Accredited by The Ohio Poultry Improvement Ass'n. We have 17 Varieties. Illus. Catalog Free. (Stamps Appreciated.)
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BARRED PLY. ROCKS
GRAND CHAMPION PEN, Illinois laying contest. Pedigree bred for many years for heavy laying. Fine catalog free. Prices right on CHICKS or EGGS.
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Baby Chicks from America's pioneer hatchery have pleased over 25,000 customers. Twenty-second season. We hatch twenty popular varieties. Guaranteed safe delivery by prepaid parcel post. Write for 40-page catalog and free premium offer.
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GUARANTEED
TO LIVE BABY CHICKS. Get full information before buying Chicks this year. Bank Ref. Est. 1914
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DR. KING'S PROFITABLE CHICKS
10 Popular Breeds. Superior strains my Specialty. Breeding and hatching under my personal supervision. 100 per cent delivery of live, peppy chicks guaranteed. Get my catalog and prices. Write Prof. Irving King, Proprietor.
IOWA CHICK HATCHERY, Box P, Iowa City, Iowa

WALLER'S QUALITY CHICKS
Hatched under personal supervision of E. B. Waller. Pure bred best paying and most popular varieties. Bred for high egg production. 100 per cent live delivery of sturdy chicks guaranteed. Write for free catalog and low prices.
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HAMPTONS BLACK LEGHORN CHICKS
Our 14th season. Hatching this wonder breed. Hardest, Handsomest, Greatest Layers, most profitable of all breeds. Catalog free. Write today. A. E. Hampton, Box B, Pittsboro, N. J.

WHITE LEGHORNS, ENGLISH-PRODUCERS
Larger size, 5 lb. hens. Chicks, Cockerels. Catalog. Mapleside Leghorn Farm, Box B, Tremont, Ill.

CARE OF TURKEYS

I always secure more eggs from my turkeys than any of my neighbors who keep the same breed, mammoth bronze. I attribute this to the extra care and feed I give my birds while others let their turkeys roost in trees and take pot luck in the hog lots for their feed.

An old straw shed with a south exposure closed in with two lengths of net fencing provides shelter for them. Water, charcoal, grit and oystershell is always before them. About the first of March I begin feeding a commercial egg mash, altho any mash would do, I suppose. I soak chopped clover hay and feed it moist once a day.

I provide nests in the shed and also out of doors. Barrels concealed in brush piles, boxes among berry bushes or in a fence corner are excellent places. I can keep the birds shut in until they have laid if I wish, but generally they can come and go as they please.

Not only do my birds lay earlier than usual, but the eggs hatch unusually well. I sell the early eggs to a hatchery as I have no way to care for real early turkeys. I set the first eggs under hens and it is quite usual for every egg to hatch.

I am sure good feed and care is responsible for this. I am very careful to see that eggs are not chilled. No eggs are set that are older than five days. In sending them to the hatchery, I wrap each egg in paper and pack the layers with excelsior.

Turkeys do not care to scratch in deep litter for feed as hens do, but if you feed your grain this way, they must work for it and thus secure exercise. Our turkeys are kept in during storms and heavy, cold, spring rains.

One of our neighbors shut her male bird up separate every night, giving him his freedom each morning. Her turkey eggs made a record hatching record that year. I have never tried this plan, but I pass it on for what it is worth.

Never allow turkeys to run in fields where there is carrion. The flies and maggots found on dead animals are sure death to turkeys, young and old. One year I lost half my flock before I discovered the cause and removed it.—Mrs. M. O. B., Minn.

BREEDING FOR WINTER LAYING

One reason why there are not more winter layers among the hens of this country is that on a good many farms winter laying is bred out of the flock by using eggs for hatching that come from hens that have not laid at all the previous winter.

It is natural for us to want to get some chicks hatched as soon as we can get setting hens, and we are likely to set the first hens that go broody in the spring. These early "clucks" are the hens that have been laying during the cold months and have got to the place where nature calls on them to hatch some chicks.

Then we take eggs that have just been gathered and put them under these hens and these eggs are mostly from hens that have laid only a few if any eggs during the winter. Thus we use the winter layers to hatch chicks from hens that have not laid during the winter and breed out the tendency to winter laying that we should try to intensify.

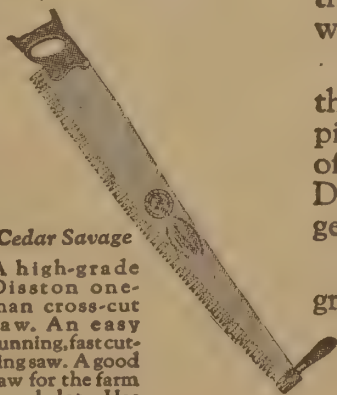
When one uses incubators, the eggs from winter layers may be used for hatching but when the hatching is done by hens, a good plan is to break up the winter laying hens when they go broody and confine them by themselves so their eggs may be identified and used a little later for hatching. This is a little trouble, but it is a very profitable way of selecting hatching eggs, as I know from experience.—M. P.

Yields from tested and untested corn in Johnson county, Indiana, last summer showed a difference of 8.89 bushels per acre in favor of the tested seed. Seed discarded as dead, diseased and weak yielded 11.88 bushels per acre less than tested seed.



Disston
Suwanee

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Cedar Savage

A high-grade Disston one-man cross-cut saw. An easy running, fast cutting saw. A good saw for the farm wood lot. Has supplementary handle.

Here's what
experience means
in a cross-cut saw

IT takes experience to make a cross-cut saw.

For the steel must be tough and strong to stand the work you do. Yet it must have spring and life. It must be pliable to set the teeth—and firm to stay set. It must take a keen edge and hold it without frequent filing.

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When you choose a Disston cross-cut you buy experience. You get a saw perfected by 85 years of saw making—a cross-cut made by the makers of the Disston Hand Saw—the world's standard of tool quality.

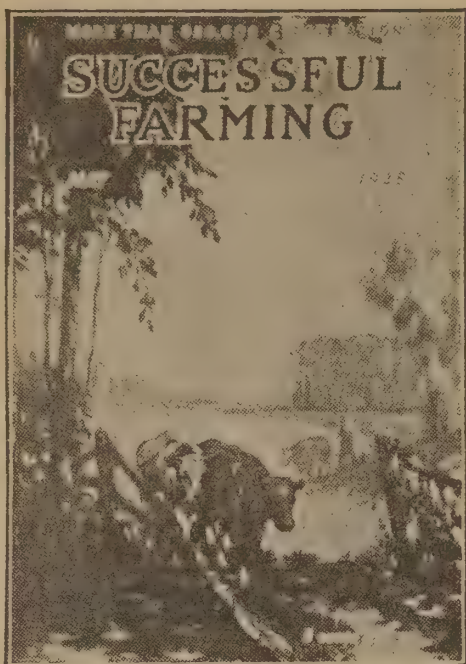
You can swing along with an easy sweep through wet log or frozen knot. The wood piles up around you and you're fresh at the end of the day. For there is experience in your Disston Saw—the experience and skill of three generations of saw makers.

Ask your hardware man to show you a high-grade cross-cut saw—a saw made by Disston.

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Hardware dealers the world around sell Disston Saws, Tools, and Files

DISSTON



How a Young Tenant Made \$18,000 and a Living In Five Years

It sounds almost impossible that this good showing could have been made during the past five years, but we know for a fact that this story is absolutely true. It will appear in the May number of Successful Farming and tells just how the money was made.

The farm was a good sized one, but a proportionate amount could be made on any good farm, provided the same practices were followed and the same knowledge applied. The article emphasizes that good land is a fundamental necessity to profitable farming. You have a much better chance to make money when an acre will produce 85 bushels of corn than when it will produce only 35 bushels.

Be sure to read this true article carefully. In it you surely will find something that will help you to make more money.

Feeding a Dairy Herd in Summer

We all know how good cows fill the milk pails when they are first turned on new summer pastures and how the supply decreases when the pastures get poorer during the hot summer months.

There are, of course, a number of ways in which the milk production can be kept at its greatest peak even when the pastures are poor.

In an article which will appear in the May number, Thomas Olson tells of a number of inexpensive feeding methods which will keep milk production at its greatest points during the entire lactation period. This is of the utmost importance to farmers who milk even a few cows and of course more so to those who are extensively engaged in the dairy business.

More Ways of Stopping Ditches

No corn belt farmer wants to see the good fertile soil on his farm run down stream to the Gulf of Mexico, and yet this very thing has happened to a lot of good corn and wheat producing land in the corn belt states.

Soil erosion is a constant menace to nearly every farmer. First it is tiny rivulets, then a little creek, and later, if not prevented, a ditch, which not only spoils the land for cultivation but continues dragging into it the good soil from surrounding fields.

Be sure to read the methods by which this may be prevented as given in an article by Ivan D. Wood, which will appear in the May number of Successful Farming.

Building Ideas For New Homes

Proper construction is most important. Houses well built last for generations and are used constantly night and day. It is a whole lot easier to build them right in the first place than it is to change them after they have been built.

Mr. Russell has just completed building his farm home. In an article which will appear in the May number of Successful Farming, he gives a lot of building details which are a safe guide for anyone else to follow.

If you are planning to build a new house at any future time, be sure to get hold of the May number and read this article carefully. We suggest that you save it for future reference.

Spring Weddings

Most folks get married but once in a life time. Because it is a ceremony which occurs only once to most people, it is therefore quite important that it be made pleasant and agreeable to the bride and groom and a real event for the guests as well.

Every bride likes to add a few distinctive touches to her own wedding which will make it longer to be remembered than others.

I am sure that the suggestions given by Mrs. Elizabeth Dredge Pierce, in the May number of Successful Farming will be interesting to every girl and mother.

Families who do not anticipate weddings soon may want to save this article for future use.

Successful Farming For May

The month of May, with its many springtime activities is one of the most pleasant in the year.

Successful Farming for May, will be in keeping with this beautiful season. Every member of the family will find something that is particularly interesting to them. Father will find many helpful suggestions for the young growing crops, methods for getting the best growth from the young calves and pigs, and other articles of equal interest. Mother will find the home department especially interesting with its many sewing and recipe suggestions. The poultry department and garden and orchard helps will be equally helpful.

Boys and girls interested in club work will find the junior department especially interesting and inspiring. All of our regular departments will be well filled with a number of excellent articles and practical suggestions. Here are the departments which are featured in every issue of Successful Farming:

EDITORIAL COMMENT
GENERAL AGRICULTURE
GARDEN AND ORCHARD

LIVESTOCK
DAIRYING
POULTRY RAISING

HOME DEPARTMENT
JUNIOR FARMERS
YOUNG HOUSEKEEPERS

Some of our old subscribers whose subscriptions expired during the fall and winter have not yet renewed. If you are one of these, may we ask you just to take a few minutes time and send your renewal now? We want your name to stay on our list. We know you will enjoy Successful Farming during the coming months and years. We are going to continue to make it the most helpful magazine we possibly can, larger than ever if possible, clean and wholesome in every way, and we don't want you to miss a single copy.

You Will Want to Frame The Beautiful May Cover

SUCCESSFUL FARMING,

"The Farmer's Service Station"

E. T. Meredith, Publisher,

Des Moines Iowa

THE COST OF HIGHWAY TRANSPORTATION

Continued from page 7

If this road were paved, there would be a possible saving to the users of .38 of a cent per ton-mile in fuel alone, or \$4.78 per mile of road, or \$1,746 a year per mile of road. The highway at place of weighing and count was graveled, so the comparison is between gravel and pavement.

On the Lemars-Sioux City dirt road the average daily traffic was 709 vehicles carrying an average of 978 tons. If paved, there would be a saving of \$9.19 a mile a day in gas consumption. On the Spencer road there were 1,272 vehicles a day carrying an average of 1,698 tons a day. This is also a gravel road. If paved, it would save in gas alone \$6.45 per ton-mile per day. Other examples would only repeat the showing already made.

Just to show what use is made of the roads at certain times of year the report on the Huxley-Des Moines highway while the state fair was on, is impressive. It was between 9 and 10 a. m. only, and 660 cars an hour passed in one direction only. Such is the traffic into any city, and, of course, it all goes out again.

Another phase of the question is the cost of bad or poor roads on tires and upkeep. It is estimated by I. C. Miller in a paper read at the Texas state college last year that the expense for tires, maintenance and repair and washing cars is about 50 percent more than the cost of gasoline. Then, add this to your gas bill as part of the cost of travel over dirt roads.

Mr. Kenley of Dubuque is an oil distributor operating many trucks. He says "In the conduct of our business we operate a considerable fleet of trucks. It so happens that some of those trucks are operated wholly upon paved roads. Other trucks are operated wholly upon the dirt roads. I find for those trucks operated wholly on pavement that we can keep them in service about six years, while the trucks operated wholly upon dirt roads are shot to pieces at the end of three years and we have to junk them." Draw your own conclusions.

F. R. White, chief engineer of the Iowa highway commission, in his testimony before a congressional committee said: "When the traffic on a dirt road reaches 320 tons a day average, then it becomes economical to pave that road. In other words, when the dirt road is carrying a traffic equal to 320 light cars per day it is economical to pave that road. The savings in the operating cost of a vehicle will pay the interest on the bonds, we will say, that are issued to pay for the roads, and will retire those bonds in a period of fifteen years, paying the whole bill. When the traffic on a gravel road becomes 470 tons a day, it then becomes economical to pave that road, as it will save money.

I have endeavored to show that poor roads, whether they be dirt, gravel or poor pavement, are a heavy tax on the users of them. It is a daily tax far in excess of any legitimate tax for the construction and maintenance of good roads. There is a point at which so-called economy in road building is "anything else but." The road cost of transportation so far exceeds the railroad costs of transportation that it is well to look closer to home for a reduction in the cost of getting things to market and getting persons where they want to go. But the pleasure of knowing that you can go any time without regard to weather and get back, extending the radius of your outlook upon the country is also worth more than a passing thought.

Sow at least twenty quarts of good, disease resistant flax seed per acre as near April 15th as possible, say South Dakota agronomists. Immune 29; South Dakota 25, 29 and 688; North Dakota 114 and Primost Minnesota 25 have proved most disease resistant and the best yielders.

Mighty Handy Around the Farm!

Wherever you now use ordinary breakable glass, you can use CEL-O-GLASS to better advantage—in barn or garage doors and windows, hotbed sash, cold frames, cellar windows, chicken house windows, or in any other place where light and protection from weather are required.

CEL-O-GLASS is light in weight, unbreakable, and absolutely waterproof. Anyone can put it up—a pair of shears, a hammer

and a few tacks are all the tools needed. No glazing in necessary.

Once you try CEL-O-GLASS you'll be surprised at the number of economical uses for it that suggest themselves to you. Order a trial roll today from your dealer, or, if he cannot supply you, send us \$5.00 for a trial roll 3 feet wide, containing 40 sq. ft. (only one to a customer). Weight packed 8 lbs. Write for booklet No. 29 and free sample.

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89 FULTON ST., NEW YORK CITY



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Tractor and Horse Drawn Tillage Tools

A Name That Provides THREE POSITIVE VALUES

You are never in doubt about your money's worth when you buy Grand Detour tillage tools. With each implement bearing this name you get *three positive values*—each essential to your enduring satisfaction.

FIRST—experience. Grand Detour has spent 88 years building tillage tools to the unvarying satisfaction of over 3 generations of farmers. Result—better seed beds for the user.

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THIRD—service. Back of each Grand Detour Implement is the service of the world-wide J. I. Case Threshing Machine Company. It is yours no matter where you live.

Experience — specialization — service. Greater value than these cannot be bought in tillage tools.

It will pay you to see the Grand Detour Line—which includes not only the Cultivator illustrated above but also the Grand Detour Implements listed in the coupon below. See this line at the nearest Grand Detour Dealer. Mail the coupon.



J. I. CASE THRESHING MACHINE CO., Inc.

Grand Detour Plow Division
DIXON, ILL. Established 1837 RACINE, WIS.

NOTICE—We want the public to know that our plows are NOT the Case Plows made by the J. I. Case Plow Works Company.

**"Good equipment makes
a good farmer better"**

Please send me your **FREE** literature describing implements checked below:

☐ Horse-Drawn Foot-Lift Gang and Sulky Plows
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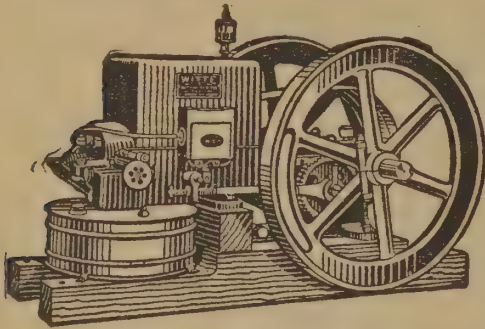
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Thousands Buy Wittes On New, Easy Plan

Now Only \$5.69 a Month Puts a Witte On Your Place—Lowest Price In 43 Years.

Thousands of farmers all over the country are accepting the liberal offer of Ed. H. Witte, world-famous engine manufacturer, on the standard Witte Throttling-Governor Engine.

Now only \$5.69 down puts a Witte to work for you—the lowest price in history on this rugged, dependable engine. Fully equipped, with celebrated water-proof WICO Magneto and over forty new improvements—this is the greatest engine bargain ever offered. A new device makes starting easy in any temperature, even as low as 40 degrees below zero.



The Rugged, Dependable Witte.

Long regarded as the cheapest and most dependable farm engine built, the WITTE develops 50% extra power on either kerosene, gasoline, distillate or gas. Operation on full load figures under 2c an hour. Trouble-proof and so simple that a boy can operate it. Easily moved from job to job. More than 150,000 WITTES are in daily use.

To introduce this remarkable engine to a million new users, Mr. Witte will send it anywhere, direct from factory, for a guaranteed 90-day test.

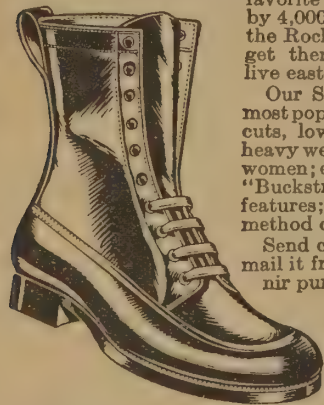
Every reader of this paper who is interested in doing all jobs by engine power should write today for a free copy of a remarkable new, illustrated book just issued by Mr. Witte, which explains the engine fully. You are under no obligations by writing. Just send your name, a post card will do, to the Witte Engine Works, 1614 Witte Bldg., Kansas City, Mo., 1614 Empire Bldg., Pittsburgh, Pa., or 1614 Witte Bldg., San Francisco, Calif., and receive this interesting and valuable book that gives you valuable information about the application of engine power on your farm.

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For hard work in mud and slush, no shoes equal sturdy Buckhects. They're all-weather outdoor shoes; long-wearing, comfortable. California's favorite for 68 years. Sold by 4,000 dealers west of the Rockies, but you can get them direct, if you live east.



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Without charge please send me Style Book and Purse.

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FERRETTED FACTS FOR FARMERS

Continued from page 10
Good News for Cattlemen

Along with the bad news of the failure of congress to better credit conditions in the interest of the cattlemen, there comes along a piece of good news for them. According to the "Annual Review of the Frozen Meat Trade," issued by Weddell and Company of Great Britain and recognized thruout the world as authoritative, the world's demand for beef has overtaken the supply and therefore prices should be higher this year than they were in 1924. Great Britain, says the review, no longer stands alone as virtually the only meat importing country. It is said that eight other countries are now actively competing for the world's available meat surplus.

Another piece of good news is the statement recently made by Secretary of Agriculture Gore to the effect that there will be no increase in the grazing fees on the national forests for the years 1925 and 1926.

What Is Europe Doing With American Money?

The average person is somewhat surprised when he is told that at present there is approximately \$5,000,000,000 of American private capital working in Europe. This does not take into account the \$12,000,000,000 which European governments owe the United States government. The latter sum brings the total debit of European countries up to \$20,000,000,000. It is estimated that there is about \$3,000,000,000 of European private capital invested in the United States, thus leaving a net credit of \$17,000,000,000 to this country, which is pretty close to the value of all the railroads and their equipment in the United States on the Interstate Commerce commission computation. To see that this money is used for productive purposes must, according to the state department, be one of our major aims in foreign policy in the years immediately ahead. Money had become such an important factor in international relations, that the policy has now been definitely established whereby private bankers are requested to consult with the state department before any large financial transaction is put into effect.

Distribution of Farmers' Business Organizations

According to the latest census of the United States department of agriculture, there are 10,160 farmers' organizations now in the buying and selling field on the cooperative plan. Of these, 3,134 are grain organizations; dairy products associations number 1,966; livestock organizations number 1,598, while wheat and vegetable organizations number 1,232. The latter are by far the most widely scattered over the country.

Congressmen Increase Their Own Pay

A sharp note of discord crept into the Coolidge economy program when a few moments before the Sixty-eighth congress expired the president signed the legislative appropriation bill carrying a provision for raising the salary of members of the senate and the house. It was the very last bill that the president signed and there was much speculation as to what he would do and much flurry among congressmen as the minutes passed and the bill was still unsigned. However, at the last moment, the president took his pen and affixed his signature, thus giving senators and members of the house \$10,000 a year instead of \$7,500 a year, and cabinet members, the vice-president and the speaker of the house \$15,000 instead of \$12,500. Those who saw the president sign the bill do not undertake to say what was in his mind but they do attest to the fact that there was no over-alacrity about his manner.

Chicks Dying From White Diarrhea

How to stop it in 48 hours

A letter from Chas. N. Kittinger, of Willows, Calif., contains good news for poultry raisers who are losing baby chicks. He says:

"Twelve of my chicks had diarrhea when I started giving them Avicol. By the second day the trouble disappeared, and now they are all lively as crickets. If I had only known of Avicol sooner, I would have saved lots of chicks."

There's no doubt that Avicol is wonderful both for preventing and stopping disease in baby chicks. It has a specific action as a bowel antiseptic and regulator. Usually within 48 hours, the sick, droopy chicks are lively and healthy. A liberal supply of these tablets can be obtained by sending fifty cents to The Burrell-Dugger Co., 508 Allen St., Indianapolis, Ind. As Avicol is positively guaranteed to do the work or money refunded, it costs nothing to try. Readers will be surprised at the way chicks grow and develop, in vigorous health, when these tablets are used in the drinking water.

RATS AND MICE



Nothing is more disagreeable than a place infested with rats, mice, ants, cockroaches, water bugs, etc. Kill these pests by using

STEARNS' Electric Paste

SOLD BY DEALERS EVERYWHERE

2 oz., 35c

Ready for use.

15 oz., \$1.50

Better than traps.

MONEY BACK IF IT FAILS

WORMS IN CHICKENS

Do you know that worms in chickens cause much of the sickness and losses? Do you know how to tell when wormy? Do you know how to remedy worm troubles? How to avoid them? Read the new, free 64-page book by Geo. H. Lee, inventor of GERMOZONE, the famous poultry remedy for roup, diarrhea, etc. Tells also about the important troubles and diseases, not only of poultry but also of hogs—information you would have to pay many dollars for. A million copies already requested. Get one now free at the leading drug or seed store in your town, or send stamp to

GEO. H. LEE CO., Dept. 18, Omaha, Neb.

CHICKS WITH PEP

Ohio Accredited. Inspectors authorized and trained by Poul. Dept. Ohio State Univ. Prize winner. National and other shows. High egg producers. Free range flocks. 100% Live Delivery Guaranteed. Thirteen breeds. Catalog free. Holgate Chick Hatchery, Box W, Holgate, Ohio

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CHAMPION CHICKS from select, pure bred, heavy laying flocks. Rocks, Reds, Leghorns, etc. 12 breeds. \$10 per 100 and up. 100% Live Delivery Guaranteed. Postpaid. Fine Catalog and "How To Raise Them" Free. Bank Reference.

Carter's Chickery, Box 46, Eldorado, Ill.

BOOTH BETTER CHICKS

Postpaid. 100% live arrival guaranteed. Pure-bred Barred Rocks, Reds, Anconas. 25, \$4.50; 50, \$8; 100, \$15. Leghorns, 100, \$13; 500, \$50; etc. 12 other breeds, Bank reference. Free catalog. BOOTH FARMS, Box 774, CLINTON, MO.

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for us. We buy all you raise. Big profits—large demand—easily raised. Pay better than poultry or rabbits. Particulars and booklet how to raise FREE. CAVIES DISTRIBUTING CO., 3122 Grand Ave., Kansas City, Mo.

EGG-BRED QUALITY CHICKS

For Foundation Stock
White Leghorns 265-300, Black Leghorns 278, Anconas 331, Barred Rocks 200-290 Egg Strains. Low Prices. Descriptive Catalog Free. VAN DRIEST FARMS, Box Y, CEDAR GROVE, WISCONSIN

BABY CHICKS & HATCHING EGGS,

shipped C. O. D., 100% live delivery assured. Pure English Barron Strain W. Leghorns, W. Minorcas, Barred Rocks, Buff Orpingtons, R. C. Reds, W. & Silver Laced Wyandottes. Write for prices. MILLER POULTRY FARM, R. 2 F, Nappanee, Ind.

CHICKS

and eggs; 16 varieties; prices low, quality high; Postpaid. 100% live arrival guaranteed. Request free circular. Nuff Sed. FEASTER'S HATCHERY, Box 27, COLUMBIA, MO

CHIX COD

100 Wh. Br. Legs. \$13. Anconas. \$14. Bd. Wb. Rox. R. C. S. C. Reds. \$15. Wh. S. L. Wyand. Buff Orp. \$17. Mxd \$11. Order now. Pay on arrival. Capper Hatchery Box 30, Elgin, Iowa.

Why the High Gasoline Price?

The question of the sharp increase in gasoline prices despite the fact that production in 1924 reached a high-water mark is causing a good deal of agitation in every section of the country. No doubt consumption has also increased but there seems to be a good deal of misgiving about the whole situation. The total production for the year was 8,959,680,220 gallons, which exceeded by 1,403,735,077 gallons the previous high-record mark for 1923. The daily increase in average production was 18.25 percent.

Domestic demand for gasoline in 1924, according to the bureau of mines, was 7,780,625,085 gallons, which exceeded the demand for the previous year by 1,095,589,805 gallons. On the thirty-first of December, the stock on hand had increased to the extent of 104,603,535 gallons or 9.73 percent. Beyond these figures the bureau of mines does not undertake to explain the why or the wherefore of the sharp increases.

A FARM HOME PLANNED BY A FARMER

Continued from page 28

seldom very uncomfortable in hot weather. We perhaps get the most pleasure from the large east porch in the summer as it is always cool and a good place to rest after the day's work.

The basement is under the entire house and has a large outside doorway besides the stairway to the inside. In the basement we have our electric lighting plant and the water system; also a large 5,000-egg incubator and coal bin and a fruit cabinet for five hundred cans of fruit and vegetables. There is also a heater to heat water for the laundry, kitchen and bath in the summer when the furnace is not going or when an extra supply of hot water is needed, such as wash day or butchering time.

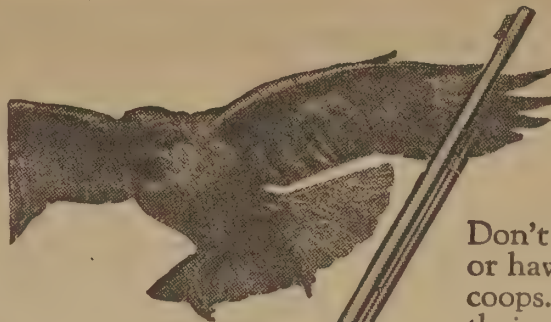
The bath is fitted with the usual bath fixtures and also a large dressing cabinet for gentlemen's clothes, drawers for other clothes and for bath towels and linen for the bedroom. The bedroom is fitted with a built-in dresser, long skirt drawers and a closet. The closet door is fitted with a full-length mirror so the wife can see the style of her shoes as well as her hat.

The laundry perhaps gave us the most trouble, as every man I had on the job wanted to put it in the basement. They said that all up-to-date houses had the laundry in the basement. It seemed all right when we had help in the house; they could go to the basement and do the laundry. But, when my wife was compelled to do the washing and see to the dinner at the same time and take care of the baby, it was a different proposition, so the laundry is right next to the kitchen and it really is not such a bad job to set the electric washer going and see to the dinner all at the same time.

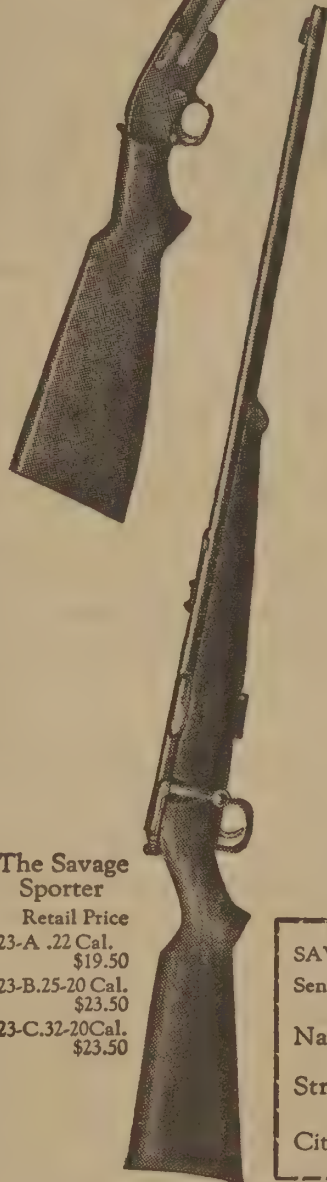
We have hardwood floors in all the rooms downstairs except the kitchen, laundry and bath. These oak floors cost more than pine but were finished in such a way that they are much easier to keep and a good treatment of wax polish once or twice a year keeps them in almost perfect condition, even with a family of children romping every day.

The porches are all built of concrete and were reinforced with woven wire fencing and have good, deep foundations under them. There is not a bad crack anywhere. The outside is stucco, even to the porch ceilings and cornice, and there is very little painting to be done except the windows, which receive a coat of paint every spring.

After living in this house for five years, there are very few changes that I could make to improve upon the conveniences and comfort. I believe if farm folks would get the city house notion out of their heads and build their farm homes more to suit their daily needs, they would be much better satisfied when the house is finished.



The Model 25 Slide Action Repeater Shoots .22 short, .22 long or .22 long rifle cartridges. Retail Price, \$21.00



The Savage Sporter
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23-B .25-20 Cal. \$23.50
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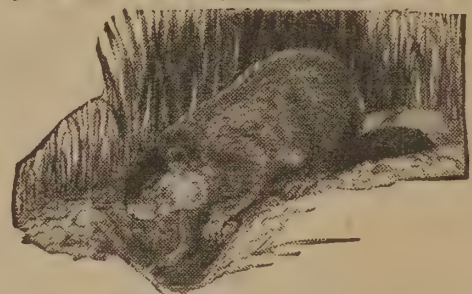
If you like a Slide Action—the new Model 25 Savage .22 caliber repeater is shown above. Notice long barrel, pistol grip stock and shape and placement of slide handle—no cramping of arm or wrist there. It's sturdy too. Solid breech, solid top—no exposed parts.

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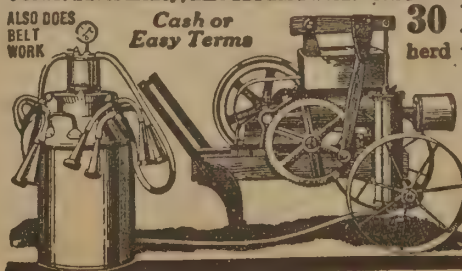
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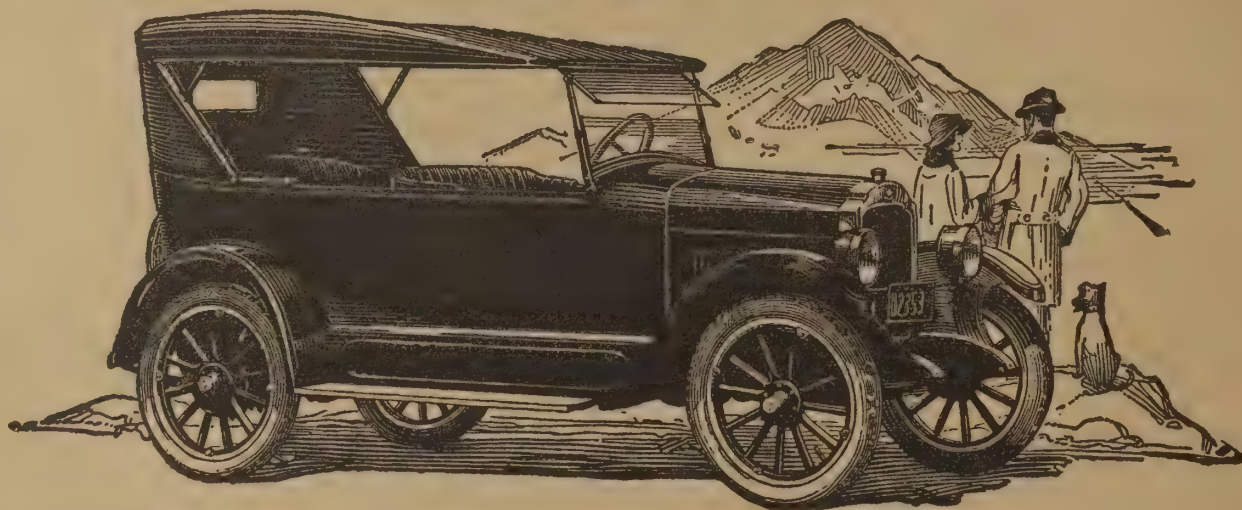
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OUR BULLETIN

LETTERS AND COMMENT

This department of Letters and Comments is for our critics, favorable and unfavorable. The views herein expressed by our subscribers are not necessarily our views. We do not ask you to agree with them or with us. We will publish as many reasonable letters as our space will permit.

GOOD ALL THRU

We think Birdseye Views of Far Lands worth more than the price of the paper. The Bulletin is fine. We get different views from the people, which I think is very instructive. It is surely a good paper from cover to cover. The cover pages are very pretty and many of them look so natural. In fact, it's good qualities are too numerous to mention.—H. L. F.

HOW TAXES JUMPED

I must say that yours is the best in its class that I have had the pleasure to examine. I am very much pleased with the way you are pleading for economy in our public affairs. High taxation, I am afraid, will bring on trouble in our country if a halt is not made. Tax per acre on my farm in 1914 was 46 cents; in 1922 it was \$2.46.—H. E. H., Ill.

ALL FOR 25 CENTS A YEAR

Just a word for Successful Farming. More value for less money than can be obtained anywhere else that I know of. Note the wealth of information found in a single issue. It tells you what congress is doing and failing to do; how to be a successful farmer or fruitman; about poultry raising as a paying proposition.

Think of it! A trip around the world once a month, abounding with a list of good things to eat, how to prepare same so as to keep you hungry and hearty. All for 25 cents a year. It seems almost impossible. The beautiful cover makes it very attractive to behold.—J. A. S., Kans.

LEARNED TO LOVE THE FARM

I am living on a thirty-seven acre alfalfa farm and love everything that goes with farm life. It is thru S. F. that I have learned to love the farm. I have taken your paper for ten years, expect to take it the rest of my life, as it is a good, clean paper. The new covers are wonderful.—Mrs. E. N., Ohio.

NICHOLS' ARTICLE BEST

Just a postal to say that I greatly enjoyed the recent travel account of Mr. Nichols in Egypt.

I have read everything available about the discoveries centering around King Tut, including a splendid article in the National Geographic Magazine, but for conciseness, and vivid portrayal, I think Mr. Nichols' account the best.—C. F. G., Minn.

WHAT KIND OF MOVIES?

I am greatly concerned over the class of moving pictures that are shown in this town. The town is so small that we only have three shows a week. The patronage must come largely from the farmers round about. Being a parent I deplore the class of pictures shown. The owner of the picture house says he tried to give this community good pictures and they did not patronize them. He loses money every time he puts on a real wholesome picture, but the house is packed and he makes money out of the wild west, the sex and the jazz pictures. He puts it up to me: "What would you do if you owned the place, lose money on good pictures or give them what they want?" I don't believe the farmers want this rot but he says they do. He says they stay at home when he puts on a good one, even at usual prices, which when exhibited in the cities are from one to three dollars a seat. What is the answer?—H. P., Kans.

[Comment: Do you plead guilty or not guilty? It costs big money to produce an "Abraham Lincoln," a "Sea Hawk," "America," and pictures of that class. The producers will cease making them if they are not patronized. We are convinced that the accusation that farm people patronize jazz pictures more than educational pictures is false. How about it?—Editor.]

"REFORMATION" FOR DAILY PAPERS

The writer has just laid aside a prominent daily paper on the front page of which were six columns given entirely to murders and killings, the seventh being headed by war news, and finished with another glaring murder story. We are highly complimented (?) by the energetic reporters who so cleverly dig up these gruesome and scandalous crimes from every corner of the earth, just to satisfy our "craving" for such things. They say "That's just what the public wants and that makes the papers sell." How hard would it be to find such deeds as that of Mortimer Schiff, the New York Jew who recently gave \$25,000 toward the completion of a cathedral, not of his own religious denomination, because, as he said, "we need the gospel of love and service."

He was not jealous of this effort to construct a protestant temple that would rise in grandeur far beyond the finest New York synagogue, but is broad-minded enough to see beyond the restrictions of creed or faith the duty of man to man.

The world is full of such deeds and achievements every day, the hearing of which would exalt us

each and every one to higher purposes and nobler aspirations. Would that some daily newspaper reporter with a true sense of man's higher longings would launch a reformation in the style of news that the public really "craves"!

We need a national law that will compel all publications to stop putting the emphasis upon the importance and glare of such news as now features the front pages, by eliminating it entirely from the outside sheets, and by restricting headings for such items to 12 point type, with body reading not over 6 or 8 point.

Our children get the idea that these are the only happenings worth reading or hearing about, and, supplemented with divorce scandals, fights, lawsuits, tales of envy, bitterness, revenge and the like, is it any wonder the influences are what we find?

We need to have emphasized, as news worthwhile, deeds of benevolence, kindness, courage, achievement, sacrifice, brotherly compassion, all of which, and thousands more, are prevalent over the world, were we to search for them half as scrutinizingly and eagerly as the scandalmonger does for his degrading slush which leaves the mind on a lower plane.

Let those who really crave and hunger for these things hunt them out of the inside pages, and not compel everybody else to search vainly thru page after page of demoralizing happenings combed together from every corner of the globe, in order to find one single happening of which man can be proud.—Prof. S. W. H., Ia.

FOUR SCORE AND FOUR

You will notice on your books that I have been a constant subscriber to S. F., for which I cannot wait from month to month. I have received much good by reading those golden pages carefully, trying to understand the many good things there. I used to, in my younger days, practice farming, and S. F. has many and many times helped me out of the dark into the light where I could see how to manage my farming more successfully.

I have traveled this rough road of life for eighty-four years, have made lots of mistakes, but at that time thought I was doing for the best and, of course, for want of better understanding, I was doing for the best. Now I am suffering with the torture of rheumatism and thanking our good Heavenly Father for His watchful care for the many years that have passed.—I. A. N.

BREAKS INTO POETRY

I do not wish to miss a single copy, as I like it better than any other farm paper. I like the clean, wholesomeness of it, from the editorials to the stories, and am glad to place it in the hands of young people and children.

Am enclosing a few lines you may use in your Bulletin or any other place in S. F. if you so desire:

When hired helpers fail to help,
And we just can't put things thru;
When the corn is soft and don't weigh out,
And the pigs get "flu" and die;
Our sky looks gray as we start the day,
But we will not stop and sigh.
Then the rural postman on our route,
Calls out a glad "Good morning!"
And looking thru our pile of mail,
We find "Successful Farming."
Then all our worries disappear
Like dew before the sun;
With helpful suggestions on problems at hand,
The battle seems almost won.
When the day is done and the night comes on,
And we sit by the fireplace warming,
We are happy there, forgetting care,
While we read "Successful Farming."
When the fire burns low and it's time to go
To our beds to sleep till the morning;
We kneel in prayer beside our chair
And thank God for "Successful Farming!"
—Mrs. W. R. B., Ia.

KNOWS BOTH SIDES

I read the article in the February issue by R. D. Willis and want to say that I was one of the young men who left the farm and, while I have most always lived in smaller towns, I have worked in railroad offices in Kansas and Oklahoma putting in thirteen hours in the office 365 days out of the year. Even this was not bad, but when the family becomes larger, the wages are not enough and one is then compelled to work before and after office hours in the garden, milking and caring for a cow or two, a pig or so, and a few chickens. All this increases the hours of work and when vacation time comes (I have had none in eight years), everything goes on just the same except the wages.

Mr. Willis states he knows what it is to have a "boss." I know what it is to have "many bosses" and the public to contend with too at the same time, as I happen to be a station agent telegrapher.

My wife and I were each raised on the farm and were induced to leave farms by no doubt the same call that others have had, but I want to tell you that we have had our share of town life, not so much on our own personal account but that of our four sons, now at the proper age to begin learning either the "meanness" of the town life or the "freedom" of farm life.

My wife is a hard worker; she has nearly one hundred hens; they help even in town, where they must be penned up and fed the year around.

With the family growing to be fed, clothed and educated by the labor of one pair of hands, it is almost impossible on such a small wage as some of us get. And that is not all. There the boys are—

nothing for them to do during vacation but loaf. As Mr. Willis says: "What chance would they have in the city? A flower pot and a globe of goldfish. What would boys do with this sort of thing? We all have the 'farm craze,' even the boys, but we are in the old 'rut,' as the saying is, and can't get out."

We have had lots of advice in regard to returning to the farm. Someone will say: "The farm is the only place for you." Another will say: "Better stay where you are." And thus it goes. Again, how is one who has not lived on a farm for ten or twelve years to rent a farm? Ask for a farm and this is the answer received: "Why, you can't farm. You don't know what a farm looks like," or, "Can you give references as to your ability to farm?" The facts are we both know what farm life is and what it is to work for someone else and live "cooped up" in town, but how are we going to prove ourselves worthy of renting a farm? My past experience of town life would make me a much better and a more appreciative farmer than one could believe, and again, there are the boys. A country lad is worth a dozen town lads, is my notion.—P. E. S., Kans.

OPPOSES FARM BUREAU

I believe I have been a subscriber to S. F. some fourteen years and take this means to congratulate you on the interesting paper you publish. Considering the price, you are presenting the subscribers with a present worthwhile.

Our Bulletin page is a grand page, where the readers can express their views. I believe it would be a good idea if the readers would do it more freely, especially in their home papers. It might do away with graft, corruption and rotten politics by keeping the mince pies out of office that are only yelling for more mince in their pie, and return in their place images like Washington or Lincoln, so we could have instead of a prodigal, a more economical government.

There are three things in which I cannot see profit for the farmer, especially those that are reading S. F.: the county agent, tick eradication and the farm bureau. If a farmer can't farm without an agent, keep his cattle clean without an inspector, or sell his cotton except thru a bureau, in my opinion he should sell out, become a preacher and save howling at taxes.—E. C. F.

TRAIN THE RISING GENERATION

Let me say something you already know; that is, was it not for business volume, you could ill afford to present your twelve copies for twenty-five cents. I appreciate your merits of pluck and the determined ideas of staying with them.

Presumably, your farm paper is the best-named going concern in America. Whoever named this is a result-getter, "The World's Successful Farming." It is of your pluck and the encouraging of this great line with the assistance of nature that man and beast are fed.

Our government should assist you more in this great enterprise to help train the oncoming generation in this high life in order to help the knowledge of the average farmer, not only to save his father's earnings but add to them. Otherwise we are facing a destructive generation.—F. A. V.

IT FILLS HIS PURSE

I thank you for your kindness. Yes, send'er along. Would be lonesome without S. F.

Each time I renew
I send you a verse,
Altho in renewing,
I empty my purse.

But it is good logic,
Altho we're old men,
To read your good paper,
Which fills it again.

—A. L. C., Ill.

SWEET CLOVER SAVED HIS FARM

Thru S. F. I got the idea of raising sweet clover and how to handle it. Everyone around here was afraid of it. But now there is over 3,000 acres within a radius of five miles around me. I believe it will be the means by which I can pay out on my farm. Even with the late start of last spring and the late clipping for hay, I threshed 400 pounds of seed per acre last fall. Wheat averaged 15 bushels here and if it were sold at the present price, which it was not, sweet clover at 7½ cents per pound paid me more money per acre.—R. L. P., N. D.

AN APPRECIATION

I have been a reader of your periodical some years and always appreciative. My inborn interest in the farm has been greatly satisfied by the many fine articles and my interest has been made to glow and increase. I own a farm at the present time that a few years ago was abandoned and quite generally held to be of little if any value. I have had the great joy of making it blossom like the rose and you have been of no little help to me. I really am grateful to you and trust that yours may be maturing, not declining, years in your work.—S. P. H., Mich.

Would like to tell how wonderful your home department in the January S. F. seemed to me. We have taken the paper several years, but I like that number best.—J. B., S. D.

Your paper is enjoyed very much. "Shall I Quit the Farm?" by R. D. Willis, is a "knockout." We don't want to miss a copy.—R. W., Minn.



Give your farm buildings a castle's strength

YOUR home is your castle and upon its strength, and upon the strength of all your buildings depends much of your profits, comfort and happiness.

Concrete buildings of Lehigh Cement will permit no income to slip away into unnecessary repair and paint bills. They prevent losses from fire, rats and storms.

Concrete makes farm homes more attractive and helps keep the children more contented.

There is no surer way of adding to the farm's appearance and market value, than to have permanent concrete buildings. See how many suggestions at the right appeal to your good judgment.

How to get Permanent Satisfaction—whatever you build

(1) Get Dependable Materials

Reputation for dependability has made Lehigh Cement the largest-selling cement in the world.

The dealer who insists on carrying Lehigh often does so in the face of constant pressure to offer you the "just as good" brand. Is it not reasonable to expect such a dealer to protect your interests in every way and to handle a line of other thoroughly dependable materials? Let the Blue-and-White Lehigh Sign guide you to a reliable dealer.

(2) Get Competent Workmanship

The Lehigh Portland Cement Company publishes free illustrated bulletins and booklets which any farmer can confidently follow. The easiest approved methods of building are described. Secure them from your Lehigh dealer or write to us.

On work requiring a contractor, remember that a contractor who insists on using dependable materials is likely to put skill and dependability into all that he does.

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for clean handling of milk
Dipping vat
for healthier stock
Drain tile
to utilize more land
Feeding floors
to fatten live stock
Fence posts
to save money
Floors
for economy
Footings
to save buildings
Foundations
for permanence
Gate posts
for fine appearance
Home
write for our special booklet
describing convenient and
attractive homes
Ice house
for cheap cooling
Manure pit
to prevent loss of fertilizer
Poultry house
for permanent, sanitary floor
Septic tanks
for sewage disposal
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for convenience and cleanliness
Silos
to safeguard crops
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to end repairs
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to raise fatter hogs
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for permanence and sanitation

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If you want information on any of the above, check the subjects in which you are interested, sign your name and address, and mail to us or to your Lehigh dealer. You will receive free of cost our bulletins and booklets.

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The Green Distant Pastures

By ANNE K. DELANO

WHAT are you looking for, Sam? You sound like a rat with a shuck." Arvilla's voice came sharply from the kitchen, and Sam, who had been clumsily pawing over the neatly piled papers on old lady Potter's sitting room table started guiltily.

"I'm looking for that last Journal," he answered defensively. "It was right here this morning."

"Well, being there this morning wouldn't make it be there just now," returned Arvilla. "It is up in my room. I'll get it for you, since I suppose you won't be happy without it," and she switched quickly thru the room, trembling inwardly lest "the old lady" should ask questions. It was unusual for Arvilla to be reading it in her own room, but there was a reason. Amongst the classified advertisements each month there appeared a short list of those imagination - stirring paragraphs called "Personals," and as she dusted the table that morning one had caught Arvilla's eye. This was it:

"WANTED—to correspond with a healthy young lady who likes farm life. Am of a poetical turn of mind. Object, matrimony. Address communications to Room 211, Penfield Bldg. Farmer."

Arvilla had taken the magazine to her room intending to copy the address. Small wonder that her cheeks were warm and that she sniffed scornfully as she handed Sam the paper, just to put him in his place, so to speak. Small wonder, too, that Sam refused to answer her jibe, for having grown restive under Arvilla's tongue he had determined to leave the service of old lady Potter and to rent a place for himself, provided he could find a congenial mate to accompany him. He was the author of the advertisement that had attracted Arvilla and he just wanted the paper to see once more how his brain-child looked in cold type, and he would have submitted to torture rather than have Arvilla see him turn to the page it was on.

"Arvilla," said old lady Potter from her chair in the sunny window, after Sam had left the room, "you are a good girl, but it does seem to me you needn't catch Sam up like you do all the time. He is a fine young man and he has been with us—how many years is it now?"

"Four," said Arvilla. "I was sixteen. It was two years after you had had your stroke."

"They don't often stay in one place that long," continued the old lady. "We had about six of them the first two years and none of them took an interest like Sam does. He is a fine young man and we must treat him right."

Arvilla answered, "Yes, ma'am," meekly enough but rebelliously she was thinking, "He may be good, all right, but he hasn't got any soul whatever. He don't care for a thing but cows and fertilizer. I wish I knew somebody with a poetical turn of mind. I'd like to think about something besides how much the pigs have grown or how much hay we will get from the west meadow. That's what the old lady wants to hear, but I get sick of the very sound of the words." She finished tidying the kitchen, in the sitting-room she adjusted the window shade for the semi-

invalid, placed the box of tiny patchwork pieces near, and laid the silver call-bell on the window sill before going upstairs to make herself neat for the afternoon.

"I'm going to answer that ad," she said to herself, snapping the brush vigorously thru her heavy hair. "I just am. I won't let on who I am or anything, but I am going to answer it and see what he has to say, anyhow."

In Room 211, Penfield Building, Junction City, two men were going thru their mail. "Look here, George," said the fat one to the thin one, "that poetical farmer has just got one answer to his ad, and the wealthy widow a little lower in the column has a stack a foot high. I guess most of the good healthy young Janes these

turn maybe you understand. The folks here would think I was crazy. No more for the present but if you want to answer write to Miss Henrietta Maywood, P. O. box 668, Melrose (which ain't my name at all). Yours truly, Lonesome."

"Melrose," thought Sam. Melrose, four miles away where Arvilla drove weekly with butter and eggs. Melrose! Good night! Suppose Arvilla ever found it out! Well, he'd take precious good care she didn't!

Sam mailed his reply from the platform of the milk station a half-mile from the farmhouse with a look in his eye that forbade any facetious remarks from the mail clerk, a blase young man with yellowed fingertips who thought in his heart that

"all them hicks was the limit anyway."

After engaging her post office box in Melrose Arvilla had been wise enough to send the name of Miss Haywood to several oil stock and patent medicine advertisers, than whom there are no correspondents more persistent; so the letter from the poetical farmer attracted no attention as it might have had it been the sole occupant of box 668. As it was Arvilla found quite a bundle of mail awaiting her upon her next trip to town. The circulars she tied carefully together and laid them on the coals of the kitchen fire the moment she reached home, the letter rested guiltily inside her best pink camisole while she gave old lady Potter a detailed account of the trip. Only when safe in her own room with the key turned did she venture to open her crackling mystery.

"Dear Miss Lonesome," she read, "there sure is a pair of us. I ought to have signed myself 'Lonesome Farmer' instead of poetical farmer, because I ain't really any kind of poet. I just mean I think things that seem like poetry, but I don't ever try to write any of them down. By the

time night comes and a fellow has done all that needs to be done on a farm, there ain't any time left for hunting rhymes. I feel just like you do about sunsets and things and there ain't anybody here for me to talk to about it. You don't enjoy anything by yourself like you do when you can share it with somebody, don't you think so? I want to hear from you again soon, and if you don't mind, send it as you did the first one—to Farmer, Room 211, Penfield Bldg., Junction City."

"Mailed on the train," mused Arvilla, scanning the postmark. "Well, he is within two hundred miles of here, so I guess we are looking at the same stars and talking about the same sunsets."

The last month of the winter crept slowly by, but no longer did the days seem all alike to Arvilla. No more were the evenings long and dull, with old lady Potter sound asleep and Sam in his room reading. Now she had letters to read and reread and one to write every week. It was always a long one because she had so many things to say out of a full heart and it must be written carefully to reveal no trace of her identity. With her thoughts on happier themes, she almost stopped her old-time indoor sport of baiting Sam, to the secret delight of old lady Potter, who long ago had begun to wish that the two might grow fond of each (Cont. on p. 100)



She could only glare and gasp, "You!"

days prefer cabarets to farms and shekels to poetry. I bet this is from a sour old maid, jumping at a last chance tho she wouldn't know which cow gave the butter-milk, as the little boy said."

"I should worry," answered George. "Put it in a plain envelope as advertised and stick it in the mail chute."

And that is how, on Wednesday, the watchful Sam found in the mail box at the gate a large, plain envelope and inside a smaller envelope addressed to "Farmer, Room 211, Penfield Bldg., Junction City," and inside this a letter.

"Dear Mr. Farmer," it began, "I don't know who you are and you don't know who I am and you ain't going to find out either unless I want you to. I like what you said in the paper about having a poetical turn of mind. I don't believe the folks I live with have any kind of a mind, and I am sick to death of their kind of talk. I like to sit at the window when I've got my work done up and watch the stars come out and things like that. It makes me want to cry when I see little birds in their nest and when the sun sets pretty colored, especially in the spring when the frogs are beginning to peep and when the first green leaves are bursting thru like little hands reaching out for the light. Maybe you think this is foolish kind of talk, but if you are really of a poetical

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other, so she could leave the farm to them at her death instead of to a third cousin half a continent away.

Spring came at last. Arvilla's bulbs were blooming finely when she received the letter urging her to meet the writer at a place of her own appointing. "I'll wear a jonquil in my buttonhole," it said, "and if you want to make yourself known to me you can. If you don't you can just go away without saying anything." Even Arvilla recognized that only a gentleman could have been so considerate.

"I'm scared to death," she thought as she scrambled into the old buggy on the eventful morning. "I'll just take a look at him, tho I wouldn't do even that if I wasn't so tired of having to listen to that Sam. He had no business making a business engagement on my regular day for going to Melrose, either. He knows good and well I hate to leave the old lady with no one around but that sniffy little Simpson brat." She jerked the lines and gave pokey old Buck a cut with the whip that sent him from sleepwalking into what he meant to be a canter. Arvilla disposed of the butter and eggs in record time. She stopped at the post office and took from the box two letters urging upon her a cure for epilepsy, and one that begged the privilege of sending her a simple little device for straightening crooked noses. With palpitating heart she turned her steps toward Melrose's pretty little park, a corner of which she had named as the trysting place. There were a number of others on the benches in the sun, some reading, others seemingly just enjoying the feel of spring in the air, with its promise of warmth and verdure soon to come.

It was not quite ten by the courthouse clock but Arvilla turned her face toward the park gate, scanning eagerly each coat lapel that entered, and just on the stroke of ten she was rewarded—rewarded? Oh, no, not rewarded, but horrified, dumbstricken, petrified to see coming toward her one of the jonquils from her own dooryard, unmistakably her own, with the fluted edge and the orange tinted cup, above it the sun-browned face of Sam showing a horror, a dumbstruckness and a petrification fully equal to her own! She forgot that she might "just go away without saying anything." Her wits left her utterly. She could only glare and gasp, "You," in a choking voice. "You."

"Think you're darned funny, don't you?" said Sam viciously, and as she turned to run he caught her by the wrist. "No, you don't," he said, "not until you have explained a few things anyway." Ang'ly she tried to jerk away but Sam's fingers were firm and she caught a glimpse of curious faces turned in their direction. Her knees grew weak and she sank to the bench again.

"Let go of me," she hissed. "Everybody's looking," and as Sam still held her fast, "I'll stay, I promise."

Sam seated himself beside her. "What have you got to say for yourself?" he asked contemptuously. "Snooping around and reading other folks' letters!" "I never snooped," blazed Arvilla. "I never snooped any more than you did. It was that old Journal done it. You and your poetry!" She fairly spat the words at him, then proved herself wholly feminine by bursting into tears, the hot, scalding kind that blear the eyes and swell the nose.

Sam let her cry out of sheer masculine helplessness. In less than two minutes her handkerchief was a wet little wad. Who would go to meet a poet lover with a really serviceable handkerchief? "Good land," said Sam as she mopped savagely, "take mine." It was snow white and folded in a square just as it had come from under her own iron, and mad tho she was, she took it. It smelled good too, not of perfumery, but a nice clean smell, a new smell to Arvilla: a smell compounded of soap and hair tonic. Her features accepted the

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changed treatment most gratefully.

After a while she straightened her drooping shoulders. "I'm going to hate you always, Sam Wigger," she said, "but I guess the only thing for us to do is to go home and keep our mouths shut for the rest of our lives."

"That is one way," Sam answered slowly. "But tell me, Arvilla, did you mean all the things you said in your letters?"

"I did," said Arvilla. "I am a fool but I'm no liar."

"I mean about thinking that love is real and folks need to have thoughts higher than pig raising and corn crops and fertilizer?"

"I still think it," said Arvilla.

"Well, listen, Arvilla. If you liked the things I said in my letters when you thought somebody else said them, why can't you like them in me? I do think those kind of things, honest I do. I am another fool but I'm no liar either. We've just found out some things about each other we didn't know before. That's all. I've carried some of your letters around in my pocket for days, thinking how sweet they were and wishing I could know you. We've each been like a fool cow that leans on the fence trying and trying to get to the green pasture she sees in the distance when all the time her own is just as good and maybe better. Why can't we love each other, Arvilla? You haven't any kin and I haven't either since my brother got killed in the war and mother died of it. Come on, let's go home and tell the old lady! I bet she'd be tickled to death."

"She would," said Arvilla. "But if I do say 'yes' it won't be to please old lady Potter—" Her voice faltered. It is so much easier to express one's self on paper and to a stranger than in words to the man who for years has been one's chief object of derision. "It won't be to please old lady Potter. It will be to please you, Sam, and—and—me."

Sam sits on the back steps smoking his evening pipe. Arvilla, having put the old lady Potter comfortably into bed, sets the shining milk pails in a row on the long table before the open window. The air is sweet with the odor of lilacs and a branch of the cherry tree tap, tap, taps against the pane. She scalds the milk strainer and hangs it above the sink. She goes shyly toward the open door. The newness of her wifewood is still upon her and she hesitates.

"Come here, Arvilla," Sam calls, and with her seated beside him, he throws a proprietary arm across her shoulders, spite of the fact that it is yet light enough for a passerby to see. "Look at that star a-peeping out, just over the crab-apple tree down there on the far side of the meadow," he says softly. "Don't it seem to you like the sky is bluer and the tree pinker and the meadow greener this year than it ever was before?"

And Arvilla answers, "Well, yes, it does, Sam. Do you suppose it is because we stopped looking over the fence to the distant pastures, or is it because you used as much as you did of that there new fertilizer?"

I. V. Coffin, of Humboldt county, Iowa, believes in alfalfa and lime. His belief is founded in the 40 tons of choice hay he obtained last year from two cuttings off a six-acre field, which was seeded in 1922. The field was sowed with Iowa 105 oats as a nurse crop. The oats yielded 65 bushels per acre and the 1923 crop of alfalfa from three cuttings was 30 tons of hay. Two tons of lime were applied when the field was sowed and very light dressings of manure were applied in the winters of 1922-'23 and 1923-'24.



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This issue of Successful Farming, the April number, contains about 65 pages of reading matter. While nearly all of it is written in an entertaining way, it is all practicable and usable.

I truly believe that any farmer who will read and try to adapt all of the good things in Successful Farming will find it a certain guide to greater profits.

We hope you're the best farmer in your community, but even so, we can all learn from the experiences of others. No expense has been spared to make this copy of Successful Farming of real definite help to you.

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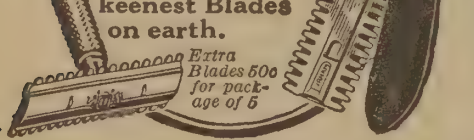
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PUTTING A COOPERATIVE COMPANY ACROSS

Continued from page 12

the face. This Greek was induced to cash checks that these girls would bring in and he was to hold those checks ten days until more money was forthcoming.

They had to get 121,000 acres of potatoes signed up before a permanent organization would be effected. If they failed in this there were the cash membership fees that had to be returned. There was Rubinow's unpaid salary to meet and other items. They had to succeed. There was no backing down. Contracts were not good until at least fifty percent of the commercial acreage of the potato district was signed up. The produce commission men and other interests were doing their best to keep the farmers from signing up. There were eight counties that did not come across with their quota. But things began to move and when March 1st arrived the state quota was reached. All the incorporation work and the election of trustees, officers and directors was accomplished in forty-five days. Thirty-three counties had come into the organization with their local machinery established.

Election By Mail

Each county held an election by mail to choose five directors for the local. Sixty-seven percent of the members voted at these elections. These five men met and created a county unit, incorporated under the Minnesota cooperative law. Each county also had one trustee, plus one trustee for each 500 members or fraction thereof. There are 57 trustees in all, constituting a state board. They organized the Minnesota Potato Growers' Exchange, incorporated April 26th, 1924, and elected a governing board.

The dirt farmers did not furnish the enthusiasm, the campaigners, or the funds to put this across. But they did elect the trustees that met and formed the exchange. Did they put "so-called" dirt farmers in charge of this gigantic undertaking? They did not. They elected Frank Kiene who grows 6,000 acres of potatoes, president. He is the largest producer of spuds. They elected as first vice-president H. C. Possehl, a former potato merchant and clothing merchant. G. W. Newbert, banker and owner of many farms, was chosen second vice-president. Secretary-treasurer is Walter Oby, who is another country banker. Sam Olson, a merchant, was made director. Benjamin Glantz, farmer-storekeeper, is another director. The law requires that the public have representation on the directorate, so Dan Wallace was chosen as third director.

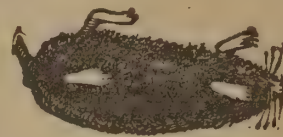
This managing board then hired a managing personnel to make the wheels go round. S. G. Rubinow was made general manager at \$10,000 salary. He had been in the state during the organization campaign. Previous to his coming he had been in charge of a similar campaign in Maine. Previously he had helped in other campaigns, notably those which resulted in the cotton cooperatives. Before that he had been a farmer in Montana, a county agent and extension worker. He graduated from an agricultural college.

Let me draw the curtain here and say something behind the scenes that needs saying. From various sources had come the report and insinuation that the Jews were trying to get control of agricultural marketing. A man has enough to overcome without facing race prejudice. Sapiro took only \$7,500 out of the state for his work there in connection with

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organizing the exchange. They did not retain him as counsel. Rubinow and Sapiro are not in cahoots on anything. They are not even friendly. Let Mr. Rubinow do his work unhampered by suspicions and prejudices.

Leo H. Wright was put in charge of warehouses and operation. Mr. Wright was the largest warehouseman in the state. He knows that end of it from the ground up. He began as sack picker when a boy, and rose to be worth a hundred thousand dollars. He agreed to take the management of warehousing for the exchange if they would pay him \$8,000 a year and buy his warehouse, a plant of 400 cars' capacity, located at Moorehead. It was bought for \$153,000 after appraisal or rating by the largest banking house in St. Paul.

They put Fred P. Fellows in charge of finances at a salary of \$7,500. This man had city banking experience, was vice-president of the state bankers' association and in intimate touch with county banks.

Up in the northwest corner of the state a county agent had developed a great seed potato specialty among the farmers. For nine years W. V. Longley had talked seed potatoes of high quality. They specialized in certified seed. Ninety-eight percent of these growers are members of the exchange. So it was natural that the directors pay heed to the seed potato business and put Mr. Longley in charge of that end of it. They pay him \$4,000.

Members need constant inspiration and information to allay the suspicions that are injected by the enemies of cooperation. They will believe their own publication better than press news and rumors. So the board put in charge of their publication and public relations and field service a man who had been in the printing and publicity game from printer's devil up thru many city dailies and farm news. S. E. Elliott has followed the policy of underrating all encouraging developments and never flinching from telling the unvarnished truth when difficulties were to be met. They pay Elliott \$3,600.

To be sure, the head of the various departments will have obstacles to meet and overcome but that is easy in comparison with the tasks they faced when unorganized. To start a cooperative with 13,250 members, growing 165,000 acres of potatoes in thirty-three counties, to warehouse and market 16,000 cars of spuds from 447 loading points and 238 warehouses, is some job to begin on only \$15,500 and not a bank in the Twin Cities back of them. The potato sack dealers demanded cash. The price kept going up. It cost \$218,000 for bags alone. Mr. Wright saved the organization \$6,581 on the purchase of sacks, buying the bags that potato dealers had on hand but could not get potatoes to fill. These were bought under the market. They were printed with the Gopher state brand which cost more.

Some ten thousand members gave their notes instead of cash in payment for memberships when the exchange needed cash so badly. They had nothing to lose but their \$5, and their potatoes in case the exchange failed. But their potatoes were not worth digging because the price was so low, so they took a gambler's chance on getting more than they could on the local market, which paid 18 to 25 cents, if there was any offer at all.

I realize that you are curious to know how it came out. At this writing I cannot tell. The potato price is demoralized by a large crop of excellent quality. But the prospects are that the exchange will net the producers a little more than they would have obtained otherwise. Next year the growers will know better than to grow varieties that have no standing in the markets. They will profit in a lot of ways by this year's experiences, so if they stick to a steady production and stay by their organization, they will win in the long run. There is no other way.

for farmers
who want
year 'round
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TUXEDO VACUUM CUP TIRES

FARMERS can't afford to shorten their over-crowded days by using tires that won't stand up on all sorts of roads and under all driving conditions.

When you figure wasted time, inconvenience, and low mileage, cheap tires always prove mighty expensive.

Tuxedo Vacuum Cup Tires, with their individual construction, heavy, reinforced cups, and sturdy rut guards, give absolute dependability and greater mileage, no matter how hard the going. They are built to give busy farmers trouble-free service the year 'round.

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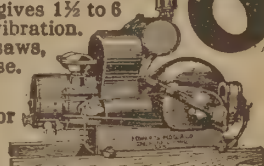


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A Michigan farmer had a field that had been plowed only one way because of a hill that ran lengthwise of the field. After attaching the Edwards Hitch to his Fordson he plowed straight up the hill without a stop. And he didn't need to keep his foot on the clutch. The harder the pull the tighter the front wheels hugged the ground. Not a moment of time nor an ounce of fuel was wasted.

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Satisfaction Guaranteed or Money Refunded
Get the Edwards Hitch and try it a few days. If it doesn't do all we claim for it, send it back and get your money. Don't hesitate; send today!

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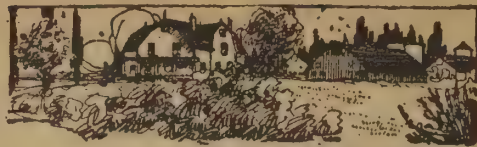
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BULBS 10 kinds Gladioli mailed for 10c and names of 4 friends who grow flowers. Will include FREE bulb of the beautiful Mirabilis.
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In purchasing shrubs most amateur gardeners feel as if they must do something to them. No matter at what time of year they bloom, they are all treated the same—they must be "beheaded." The effect of that operation is that numbers of shoots hasten to take the place of those removed, and then the shrub becomes choked with needless branches. If they happen to be spring flowering ones, their beauty and gracefulness at blossom time is completely wrecked.

Until they have finished blooming no one should be allowed to prune the following shrubs: deutzia, forsythia, Japanese quince, lilacs, snowball, syringa,



A well-pruned Snowball

weigelia, or the following varieties of spirea: prunifolia, thunbergii, Van-Houttei. But there is plenty of pruning for early spring. Have a pair of good pruning shears, a small pruning saw, and some wax to cover the larger cuts.

The cut should always be made just above a bud, and an outside one, which will cause the shrub to branch "out" not "in," thereby admitting more light and air. Any branches broken during the winter should be cut smoothly, close to the next outward branch. When removing a branch never leave a stub, for it will decay, affording an attractive lodging place for insects. Any cut larger than half an inch should be waxed over. When in doubt as to how to prune a shrub, leave it alone. It will be better off.

Irrespective of the season, newly planted shrubs are benefited by cutting back at least one-third of last season's growth. The clematis althea and berberis are benefited by intelligent spring pruning. Clematis and berberis need only light pruning, altho the clematis may be cut clear to the ground if you prefer new growth each year. The Anthony Waterer Spirea should be cut back rather closely to make it bushy. Hydrangea paniculata will grow ungainly with years unless given rather a drastic cutting back each spring, as its flowers are always on the new growth.

All ungainly branches should be removed from the Tamarix, but if carefully pruned when small for symmetry, it will need little or no care in middle life.

Watch the lilacs for suckers and keep them removed.

When shrubs have been injured by the winter, scrape the bark slightly, if it shows green underneath, the plant is alive; but cut it back hard, not allowing it to bloom that season, and it will come back to health and usefulness. Plants that seem to be suffering from general debility should be given the same treatment.

When one understands the care of shrubs, they become more and more tempting. On a small place the number is limited; the selections must be restricted. But there are a few that will maintain something like a continuous performance in beauty of flower or branch. In March comes the naked Jessamine (yellow);

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DAHLIAS 10 choice, assorted varieties, Postpaid \$1.25. Catalog free. Gill's Dahlia Garden, Washougal, Washington

April, the Japanese quince (red); May, the lilacs; June, Spirea (white); July, Deutzia gracillis (white); August, Hibiscus (pink); September, Hydrangea paniculata (white); October, Cornus (white and dark blue fruit); November and December, Japanese privet (black fruit). January and February are brightened by the scarlet berries of the Berberis thunbergii and the beautiful red stems of the dogwood.—M. N. W., Kans.

HOW TO BUILD UP A LAWN

Most landscape gardeners consider the lawn the real foundation for all planting to be done. Their first care is the establishing of a good lawn, and the finer the lawn, the better the finished job will look.

In sections where bluegrass does well, there is nothing better for the lawn. In most parts of the Middle West it thrives, and when the soil conditions are favorable there are not many weeds or grasses that can crowd the bluegrass out.

While bluegrass will stand a lot of grief, a soil that is well drained is always the best. Where the top soil is too thin, it is an excellent idea to place a few inches of black surface soil over the lawn area before sowing the seed. If the black soil is not available a good heavy covering of barnyard manure should be worked into the soil. The soil should be mixed thoroly. Repeated discing and harrowing to bring the soil to garden conditions should be given.

Bluegrass seed should be sown quite early in the spring. I like to sow a mixture of bluegrass and white clover, about nine parts of bluegrass and one of white clover. One pound of this mixture to each thousand square feet will make a good seeding. Make a half-seeding going one direction and than another half seeding across the yard in the other direction. This will insure against an uneven stand and a resulting streaky appearance on the lawn when it comes up.

Let the grass get a good start before mowing the lawn. It will not hurt anything to let it get high enough that a scythe will have to be used the first time, but the mower can be put on immediately thereafter and used regularly. It is better to cut rather frequently. If the grass is not allowed to grow too long before cutting, you will not have to remove the clippings but let them settle down about the grass blades. These will tend to form a mulch and give you better results over the long run, particularly thru the hot dry season.

A good dressing of compost or finely sifted manure is excellent. Excellent results have also followed the application of commercial fertilizers such as nitrate of soda and ammonium sulphate. A pound and a half to two pounds of either of these fertilizers to the square rod will be plenty.

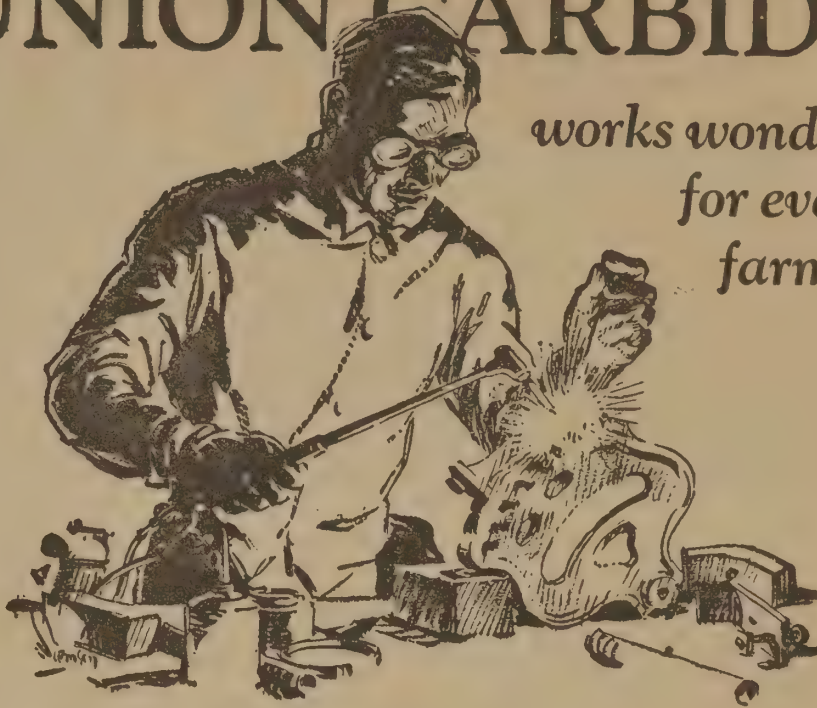
When water is available for irrigating the lawn during the summer, do not apply it in light and frequent sprinklings. Rather, apply one or two heavy waterings a month.

PLANT VAN HOUTTEI SPIREAS

The Spirea Van Houttei, or bridal wreath, is one of the most beautiful shrubs grown and it is very popular for planting in almost any position on the home grounds. It grows three to four feet high, and the gracefully arching branches are covered with a solid mass of pure white bloom in the spring. It needs no pruning. In fact, pruning makes it stiff and causes the shrub to lose that graceful slenderness of branch that is its greatest charm. The foliage is always pretty even when it is not in bloom. It is very hardy and will grow on any soil, and stands dry weather better than most shrubs. It never grows into scraggly bushes, but is always compact and well formed.—L. H.

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DELPHINIUM, OR PERENNIAL LARKSPUR

I think the delphinium is one of the best loved hardy plants. The beautiful flowers on their tall stately spikes are a charming sight. They make a gorgeous addition to any garden. I visited a garden of the different colored ones last summer, and it truly was an enchanting spot. There is something about a mass of the tall spikes of riotous color to make one believe it is an enchanted spot and that fairies might come peeking out among the flowers.

The delphinium is not especially difficult to grow. The seed is sown in early spring, either in a box indoors, or in a hotbed. The seedlings may be transplanted when they are an inch or so high. Put them in boxes of dirt, three or four inches apart each way. Then they may stand in these until the ground is warm enough to put them out. However, about a week before time for putting in the ground the boxes should be set out in the open, with a little protection on cold days and nights, to harden them. Set them out to stand six or eight inches apart each way. Keep the weeds down and the dirt loose and see that they have plenty of moisture and they will bloom during the summer.

There are many beautiful shades and colors to choose from so each one may choose whatever strikes his or her fancy. They are all strikingly beautiful. The hybrid varieties are very beautiful also, tho of course one cannot expect them to come true, but they are beautiful just the same.—I. J. M., Ind.

SPRINGTIME HINTS

It is a mistake to spade up, or hoe the ground in the spring where the last year's flowers stood, for there are many varieties that self-sow liberally enough to provide all the plants that are needed, and you will have earlier plants than is possible from spring sown seed; the exposure to the winter snows and freezing weather seems to expedite their germination.

The salvia is very disappointing to the grower when seed is planted. I have planted many a packet with no result whatever. In each little red cup of the salvia bloom there is one black, smooth, shiny seed. As they ripen the cup turns downward and the seed drops to the ground. If left undisturbed, one is rewarded in early May with as many sturdy plants as he needs, with only the trouble of transplanting.

The nicotiana literally showers its minute, dust-like seeds by the thousands hither and yon when the wind blows, yet they are so delicate that only a few will germinate, and you will find them under the shelter of the leaves of other growing plants, where the sun doesn't shine warm enough to dry the soil. They have a tap root, but can be transplanted by shading a day or two.

The dear old zinnias will always appear as soon as the ground gets warm, but to keep them at their best the small singles must be pulled up as soon as they bloom.

The cleome, amaranthus, celosia, gailardia, sweet-william, marigolds, and even asters, all will come up from self-sown seed, if left undisturbed. I find that it pays to keep a list of the seed houses that are patronized each year, with the kind of seed that is purchased, and if they prove inferior, or untrue to name, I scratch that dealer off my list.

I let the dead branches of my flowers remain just as they are during the winter, and before the extreme weather arrives I use dressing from the cow stable as a further protection.

As soon as the balmy days begin to make their appearance in the spring I

have a regular "house-cleaning" in my flower garden; I use a pitch-fork for removing stems and coarse litter, all of which goes on the compost heap, leaving everything that passes thru the tines of the fork. The spring rains drive that down until it makes an ideal mulch during the hot, dry months of summer. It is also a protection for the tiny, delicate seedlings. —M. N. W.

SWEET PEAS FOR PROFIT

Last spring I bought a twenty-five cent collection of sweet pea seed, seven packets in all, and each a different color. I sowed about one-third of it before the middle of April, when our very first garden stuff went in, another third two weeks later, and the remainder I gave away. What I planted made a row about thirty feet long, and by July 4th I picked my first blooms, and September 4th they were still blooming a little. During that time I sold at least \$15 worth, gave away numerous bouquets, and took first prize at our county fair.

On Saturdays I marketed them with our garden produce at our county seat, and every Wednesday evening I took some to a grocery store near a summer resort not far distant and they sold them for me for a small percentage, any left being my loss. Only two bouquets were unsold the whole season.

The soil used for growing them was just the ordinary garden soil enriched nearly every week by applications of manure water, sometimes made with poultry droppings, sometimes cow manure, until the plants were in full bloom. The vines were supported on brush, with a stronger post about every five feet, and string tied to it and wound in and out among the brush. They received cultivation with the one-horse cultivator as long as the horse could be driven along the row.

Years ago I tried sweet peas but always with no success. Now I say the secrets are plant early and the best seed, plant in the garden where they will receive garden cultivation, fertilize frequently and reap your reward in lovely bouquets. Then if you wish to sell them, pick everything at least twice a week, and be liberal in the size of your bouquets. Mine ranged from twenty-four to thirty-six blooms according to the season, but always brought highest market price. —Mrs. C. B. L., Iowa.

CHINESE PINKS IN THE HOME

No flower is better suited to a place in every home than the Chinese pink, or dianthus chinensis.

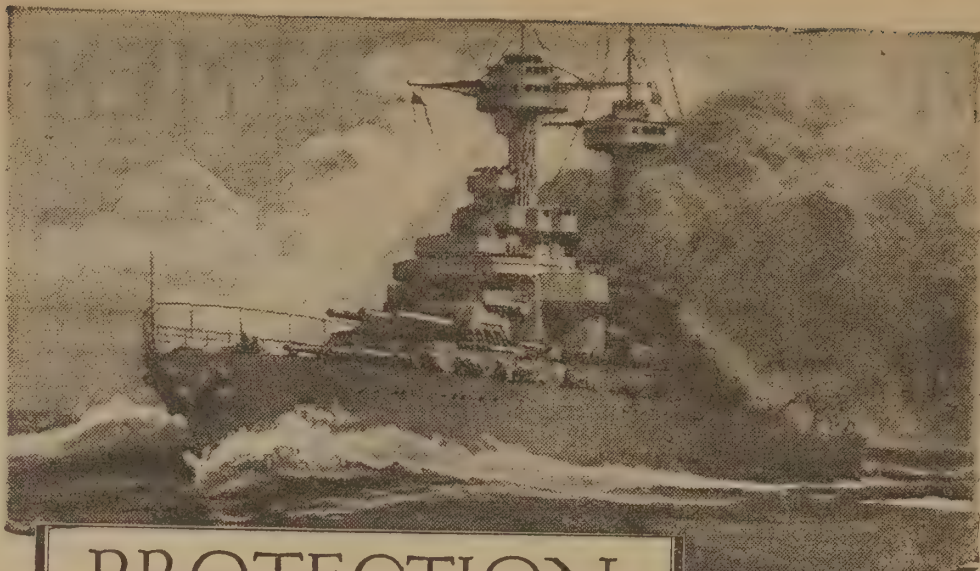
Their great beauty, ease of culture, and lasting qualities have gained them a place in our hearts forever, and it is our duty to secure a variety and have a handsome and attractive bed.

They are single and double, and have such a variety of color that we can secure a gorgeous effect, and it does not require long to do so, as they grow rapidly from seed and bloom the first season, and continue to do well for a number of years. They require no protection, being quite hardy, and they are free from disease or the ravages of insects.

Sow the seed in a box early in the spring, or in a light soil in an open bed as soon as the weather will permit, and as soon as they are large enough transplant to a nicely prepared bed in a position where you can allow them to remain, setting them four inches apart each way. In a short time they will stool out and fill the entire space, and the erect stems will carry a showy head of bloom well above the plants.

Do not fail to have a bed of Chinese pinks. —J. T. T., Ohio.

Arsenate of lead comes in either paste or powder form, but the powder is usually the easiest to handle and is becoming the most used.



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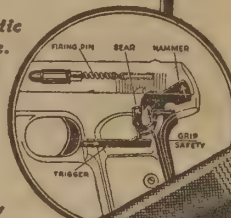
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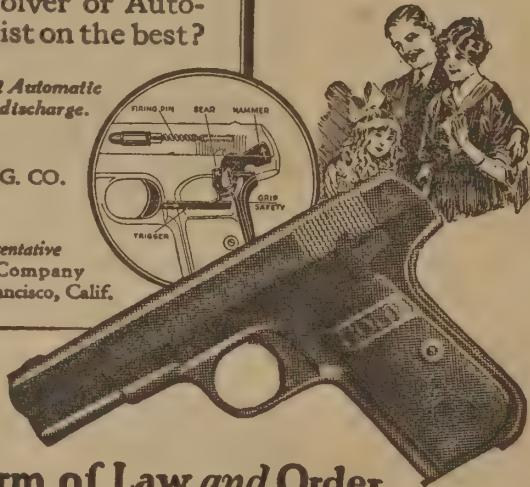
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I AM a farmer's wife. I live on a 400-acre farm in northwestern Kansas. We do general farming, raise wheat, corn, livestock, poultry, and have a garden and an orchard.

There is much hard work involved. I have done the housework for the men who do this work for almost twenty-five years, yet I still like my job. I'll tell you why.

The farmer's work is essential. He produces food. He is very dependent upon the woman who keeps his home going, so therefore, if I help to raise and harvest a wheat crop, I have helped to supply bread for many mouths. The world needs my chickens, my garden, the eggs I sell, the apples I gather. I live in an old-fashioned house. Sometimes I wish it were more modern. It is homey, tho, and has the atmosphere of memories. I like to plan my furnishings to match the house and we add conveniences as often as we can.

I plan my work and systematize, try to serve my meals on time, and have a definite schedule for each day in the week.

We have a "flivver," a radio, a telephone, and rural mail delivery. We treat our help well and are seldom ill-treated by them. We have a tableful of magazines to read at night, a piano, and a typewriter. We use them all, learning how if we do not already know.

We study to grow more and better farm products each year. Our farm has a name and this name is used in marketing all the produce we raise.

We are making money slowly but surely.

Did you ever stand at the edge of a wheat-field at sunset and look over across the acres of ripe wheat that the header would begin cutting the next day? There is a thrill in that for me.

Did you ever walk in an orchard among fruit-laden trees, on a summer afternoon? There is peace and loveliness for me.

Did you ever go out into a garden and gather fresh, delightful vegetables for dinner, knowing that the men who would presently eat them would appreciate and deserve the best meal you could cook? That is achievement for me.

Did you ever go among your chickens at nightfall and hear the cozy, throaty sounds they make as they settle down for

the night? There is something comfortable about that.

Finally, did you ever ride home on a great load of prairie or sweet clover hay, with the soft evening air on your bare head, a cow bell tinkling down by the creek as the cows are feeding along on their homeward way and the sun just ready to tumble into bed? Well, if you haven't I can't tell you why I like my job.—Mrs. A. W. W.

A NEW GARDEN PARTY

I had dropped in one morning for a few minutes to see my neighbor, Mrs. James, and found her busily engaged sorting her garden and flower seed.

"Just see how many more seed I have saved than I really need or have room for," she exclaimed, pointing dramatically to a table on which were piled paper packages of various sizes and shapes. "Goodness alone knows I wish I knew whom I could give them to."

Just then the idea struck me of having a party, so without a moment's hesitation I said, "Let us give a party and find out who wants the seed. I have a lot of extra seed too."

"Just the very thing," Mrs. James agreed enthusiastically. "We'll have it here at my house and invite every woman in the neighborhood, and we'll call it a garden party even if we do have it in the house."

From that moment plans moved forward merrily. The invitations were written on white cards decorated with dainty pressed flowers

pasted carefully in one corner and bore the following verse:

If you have any seed
You do not need,
Please bring them to our party.
Come, join in our plan,
Be a "garden faa."

And receive our thanks most hearty.

As the guests arrived each was handed a slip of paper on which was written, "Please tell us something you have learned about flowers or vegetables that will help the rest of us. You have been allotted two minutes' time." The suggestions and discussions which resulted from these requests were both helpful and enlightening and a merry hour was spent.

A clever little guessing game in which

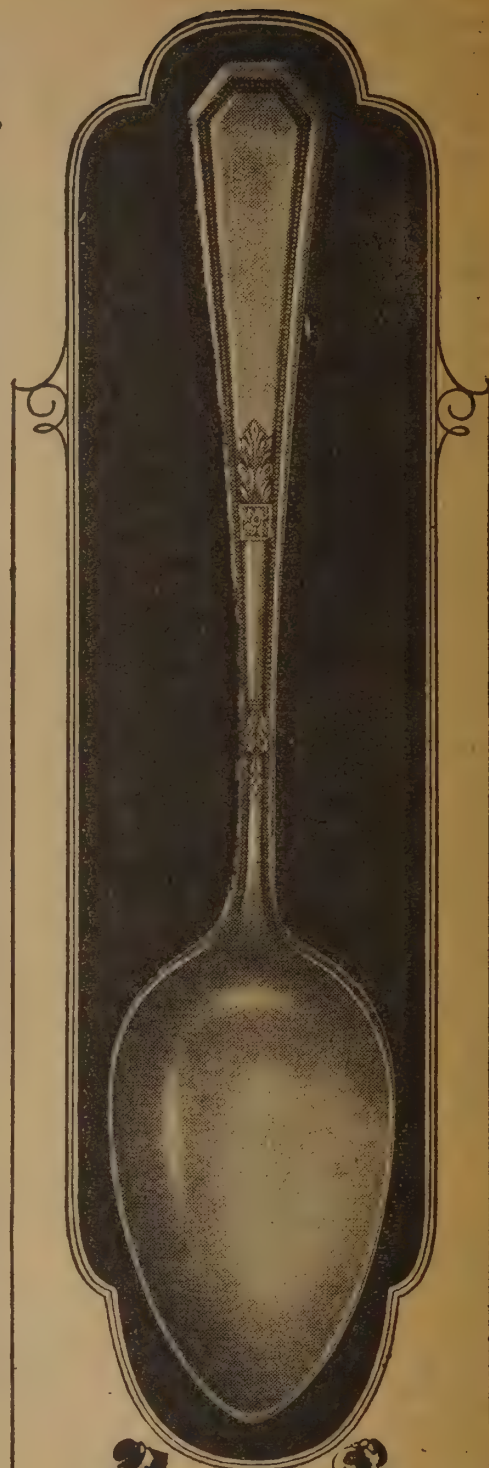


WHAT THE GOSLING KNOWS

*When I left my little egg-shell house,
I was much surprised to see
That the new grass carpet on the
ground
Was colored just like me.*

*The trees all wear green garments,
The skies are bright and clear;
And tho I'm just a gosling green,
I know that spring is here!*

—L. R.



Tea Spoons
\$1.65
per 1/2 doz.
in

Mayfair
Pattern

VERY little in cost and exceedingly beautiful, this charming pattern in fine silverplate will give you satisfactory service. Ask your dealer to show it to you.

Wm. Rogers & Son
Silverplate

WM. ROGERS MFG. CO.
Meriden, Conn.
Succeeded by

INTERNATIONAL SILVER CO.

flower names were the answers proved very popular and the prizes were pamphlets on various phases of flower and vegetable gardening. A large bouquet of artificial flowers (as many different kinds were used as possible) was then carried into the room and the ladies were given one minute in which to observe the bouquet while it was turned slowly round and round. It was then taken away and the guests were asked to write down as many different kinds of flowers as they had been able to see in the bouquet. A garden trowel was the prize for the one who had seen the most.

The refreshments of sandwiches, salad and dessert carried out the "garden" idea while the green and white color scheme carried out in all the decorations gave the same effect.

The seed which the guests had brought in neatly wrapped and labeled packages were all placed on a table and each guest was asked to take home with her what she desired. Thus the results of our party were seen in many farm gardens that spring.—Mrs. L. E. B.

MY SET-A-HEN PLAN

"You may buy it after harvest," or "when the oats are sold," or the corn or the wheat or something else. How many times I have been given this promise sincerely only to find that the supply of money failed to go around and the thing I had been promised for my home had to be given up! It is not unusual among farm folks.

It was to meet these very disappointing situations that I adopted my set-a-hen plan and after almost a decade of testing out I would not pass a summer without carrying it out.

Springtime found my wardrobe badly depleted but the usual promise of new garments "when the corn is sold." I knew from experience that the corn money never did go round. Then my kitchen needed almost a whole new outfit of utensils. My pans and kettles were worn out and leaky and my cutlery and other conveniences were at a low ebb. And one by one I had dropped off from subscribing to my favorite magazines until I was totally without these pleasing visitors from the outside world.

It was with this situation before me that I determined after much thought upon the set-a-hen plan. I planned to set a hen upon a sitting of eggs for each of the three special needs, only there were to be four hens for clothing. I knew the feed and care would be forthcoming and I would trade eggs with my neighbors so that I might be absolutely sure which were my special chickens and which the regular farm flock.

My poultry yard was then inhabited by barred plymouth rocks only. I secured four sittings of Rhode Island red eggs from one neighbor, which were destined for next winter's wardrobe. From another I obtained a sitting of white Brahmas for my magazine fund, and buff orpingtons were charged with the responsibility of restocking my kitchen.

These chicks I brought up along with the regular farm flock. In autumn I selected from my special chickens a few of the best for breeders and sold them to raisers. The others I marketed at various times in summer and fall. At the lower prices of that time my sittings of eggs returned me about eight dollars each, which I placed religiously where it had been promised, in the wardrobe, the kitchen and the magazine shelf.

If I had promised myself that I would buy these things from my poultry money they would have been neglected in the rush to make the sum cover the ground. But set aside as they were I never questioned their right to the places I had promised them, and to this day I plan each year to set a hen for each of half a dozen special needs.—Mrs. J. L. P.



For those rosy cheeks try hot breakfasts

QUICK QUAKER—luscious and strength building, cooks in 3 to 5 minutes

FOR sparkling eyes and rosy cheeks—"hot oats and milk," say authorities on child feeding.

Because of limited cooking time, many mothers were serving less nourishing breakfasts. So Quaker Oats experts perfected QUICK QUAKER.

Savory, flavory and delicious, it's cooked and ready in 3 to 5 minutes. That's quicker than toast, quicker than coffee! Why not have richer, more nourishing breakfasts then?

Ask your grocer for Quick Quaker. You will be delighted.

All that rich Quaker flavor; all its smooth deliciousness, are retained. The grains are cut before flaking and rolled very thin. They cook faster. That's the only difference.

Your grocer now has two kinds of Quaker Oats—the kind you have always known and Quick Quaker.

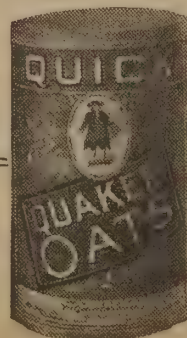
Standard full size and weight packages—
Medium: 1¼ pounds; Large: 3 pounds, 7 oz.

**The new
Quaker Cook Book
is ready**

Send for it. 96 new and universal recipes, covering everything from correct soup thickening to cookies and desserts—oats, wheat, rice, corn, barley, illustrated in color. Send 10c for a copy postpaid. The Quaker Oats Company, Room 1661, 80 East Jackson St., Chicago.

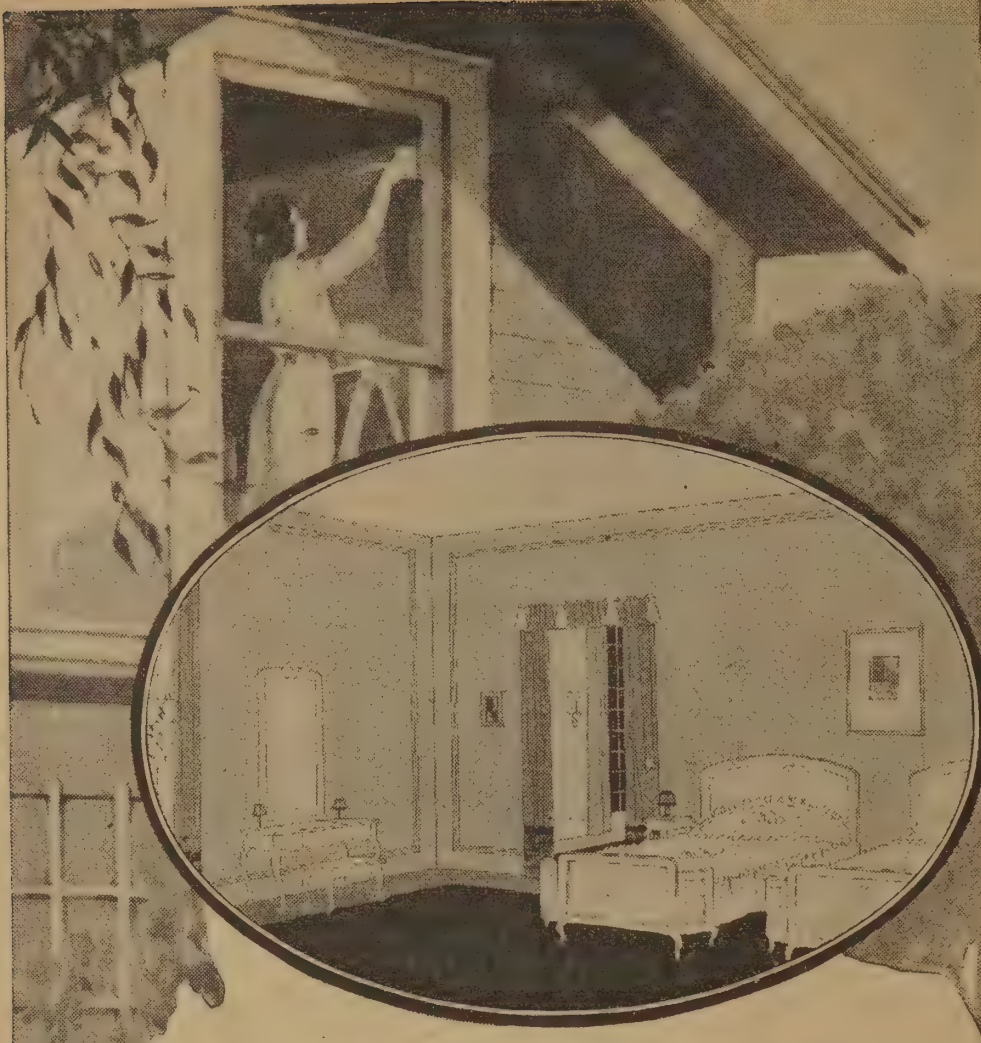
**Quaker
Oats**

*The kind you have
always known*



Quick Quaker

Cooks in 3 to 5 minutes



Walls that Smile a Welcome

Alabastined walls are so inviting, they smile their hospitality. And when Miss Brandon has advised correct tints they become truly artistic.

Alabastine mixes with cold or warm water and can be applied over plaster, wall board, paint, burlap, or canvas, or wall paper where it is fast, has no raised figures, and contains no aniline dyes.

Why clean wall paper or wash paint when a coat of Alabastine gives new walls with less trouble? You can do the work yourself where decorators are not available.

Alabastine

Instead of Kalsomine or Wall Paper

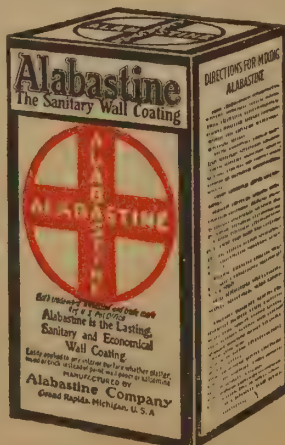
Alabastine comes in five-pound packages marked with the Cross and Circle printed in red. Standard Alabastine colors intermix to form many others so that exact harmony with rugs and draperies is easily secured. Sanitary as well as artistic, Alabastine is used in homes, churches,

schools, public buildings—wherever beautiful walls are desired.

Write to Miss Brandon

Miss Ruby Brandon is in charge of our "Home Betterment" Department. Write her about your home and its furnishings and she will send a special color chart telling just how to secure most artistic results. There is no charge for her suggestions.

ALABASTINE COMPANY
971 Grandville Ave., Grand Rapids, Michigan



CAREFUL PLANNING AND THE USE OF A NOTEBOOK

Do you have a notebook and do you use it? Do you plan your "wear-out" tasks so that the end of each month sees the completion of several of them?

I once asked a friend who is the mother of four small children, how she found time to do the beautiful embroidery work which she did. "Why," said she, "I plan my work for several months ahead. Then I estimate how much has to be done each month in order to complete that amount. I keep a list in my notebook and check each thing off as I finish it."

Her answer made me study and I resolved to work out a system for myself.

There were numbers of things I wanted to do and which I had been promising myself I would do as soon as I had my sewing "caught up with." I made my list and when I had an hour to spare I consulted it to see what I'd planned. After a thing was started it was easy to go on with it.

Perhaps a week would go by when I couldn't check off a single item but there would be several at the end of the month. And at the end of the first six months I had accomplished more than I had dreamed possible.—Mrs. W. R. I.

DYE MAKES OLD FABRICS NEW

My experience in dyeing seems to be locally famous for frequently one of the neighbors calls me up on the phone for advice about something she is dyeing. In fact the last dress I dyed I did not tell about, pretending it was new, for it had been so long since I had had a new silk dress. Dyeing certainly does make new dresses, if the fabric is not worn. Often a dress will wear a long time after being dyed, which would otherwise have been cast away because of its faded appearance.

If material is pure silk, I think a dye for silk gives a richer color, but if the stitching of the seams or a thread in the material is cotton, select a dye for cotton. Silk hose are likely to have heel reinforcements of cotton, hence use a cotton dye. A silk dye will not successfully dye both. The soap dyes or tints are all right for georgettes or thin blouses, but where a sun faded, streaked garment is to be colored, use a dye to be boiled.

First wash the garment clean, or if it was put away clean, thoroly scak before putting into the dye. It is well to bleach out the old color by starting it in a cold neutral soap solution, and when boiling pour off and repeat. In this way I faded a rose dress trimmed in green before dyeing it. They were nearly white before I put them into the dye.

Dye is dissolved in hot water and strained thru cheesecloth; this method is best even for the soap dyes. The directions tell how much to use, but it is usually best to start with a little and later add more if needed. Usually more dye is required than the package states.

Following Directions Insures Results

The package gives complete directions for using the dye. It is especially important to have all ripping done, and inner linings removed, since dye will not penetrate the seams. Once I dyed a dress with the cuff tacked on the sleeve with a wrinkle in it. I discovered this when I ironed it, and had either to dye the whole dress again or leave it as it was. If the material is not pre-shrunk, tucks and hems need letting out before dyeing.

The wet material is put into the cool dye bath, using a vessel large enough to prevent crowding the material, and to hold enough water to cover it completely. Once I used too small a pan, and the material came out streaked. Constant lifting and stirring with sticks are necessary. It does take time, and if the garment is not worth half an hour's constant stirring, do not start dyeing it. Do not try to do anything else at the same time.

Salt and vinegar are used to set the color according to directions.

The dye is usually rinsed out in cool water, until the water runs off clear. There is a difference in materials. Recently I dyed a ratine rather carelessly and hung it up a few minutes before rolling it in towels, and it was a good color. But in dyeing a smooth soft jersey silk, I did this, and the color was streaked even after careful rinsing. I had to dye it again, darker to cover the streaks, and that time I rolled it at once in old towels and rags, and pressed immediately while it was wet. I merely mopped some of the water with the rags, never daring to squeeze or wring it, lest it become streaked. I started at one end ironing, and did not let one part be perfectly dry next to a perfectly wet part; that is, I smoothed the iron over one part, then went back and finished ironing. For between a wet and a dry spot will be formed a streak. It is ticklish work to iron it nicely. That is also likely to be true in dyeing organdy.

The color charts with the package of dye tell that red over blue will make purple and so on. Always dye a darker shade to cover up streaked or sun faded material. Navy blue is an easy color to obtain. Rain water is best in dyeing black; I usually use an extra package of the dye to get a true black. I have dyed stockings successfully. Longer boiling makes a color darker. Home dyed goods are not as fast color as commercially dyed goods. They need careful laundering, and the most successful are silks that will need only infrequent tubbings.

Any dye can be used as a tint, using less dye, and removing material as soon as it boils, then rinsing. This is not a fast color, and is used only for materials which would shrink with boiling.

Almost anything may be dyed. Such silks as China, foulard, Shantung, twilled silks and some satins may be pressed successfully with the flat iron, hence may be dyed at home. The professional dyer runs lengths of silk between hot cylinders in order to give the proper finish. Taffetas should not be dyed at home, nor should heavy coats and suits which require a larger vessel than the wash boiler. Light weight woolen dresses, summer dresses, ribbons, blouses are all easily re-colored.

Bright colored hose can sometimes be bought on sale cheap because of their gaudy hues, when the quality of silk is excellent; they can then be faded and dyed. Different striped and checked scraps from the piece bag put into a blue dye bath for a while will come out in harmonizing (not matching) shades just fine for a rag rug. Streaked curtains are first boiled, then dyed ecru. The draperies, couch covers and pillow tops will want to be dyed lively colors to make the rooms more cheerful.

—D. W. M.

THE USEFUL ELASTIC BAND

In sowing the garden seeds I sometimes have a part of a package left when I am thru with the first sowing. I like to keep these in the original package, but found it difficult to avoid spilling the seeds and it took rather too long to tie up each envelope. Now I slip an elastic band around each package when I have finished and find that I have solved my problem to my satisfaction.

An elastic band slipped around an opened ball of crochet or knitting cotton will prevent the thread from unraveling.

—S. H.

LINEN COMPARED WITH COTTON

In an experiment carried on by a large hotel, it was found that one linen sheet out wore twenty-two cotton sheets, under similar conditions. One linen tablecloth was found to outwear twenty-four cotton table cloths. This brings to our minds the fact that in spite of the high original cost it is true economy to purchase linen for beds and tables.



Make Your Dreams Come True

Light that makes your home a happier, more cheerful place for every member of your family. Smooth, quiet electric power to do so many of the weary tasks that must be done by hand—to lift the heavy burden of endless toil from the shoulders of the worn folk in your home.

These are the dreams you've had for a long time. And now is the time to make them come true.

Now—\$97.50 Gives You Delco-Light

Today, for a first payment of only \$97.50, you can have a standard Delco-Light Plant in your home—completely installed, with the necessary wiring and fixtures—ready to give you electric light and power at the turn of a switch.

You can have an abundant flood of clean, safe electric light wherever you want it. You can have electric power for the pumping, separating, washing, sweeping and many other tasks that now burden you and all your family. You can have dependable Delco-Light—the farm electric plant that is serving nearly a quarter of a million satisfied users.

Write For the Facts

Write today for the free book that tells you all about Delco-Light, and for information as to how you can put Delco-Light in your home—for a first payment of only \$97.50. Learn how Delco-Light actually pays for itself out of the time and labor it saves.

DELCO-LIGHT COMPANY

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Dept. D-13, DAYTON, OHIO

Makers of Delco-Light Farm Electric Plants, Electric Pumps, Electric Washing Machines and Frigidaire Electric Refrigeration.

The Delco-Light Exide Storage Battery is always ready to supply electric current. No need to run the engine every time you turn on a light. Costs less to operate, too. Delco-Light Exide Batteries installed many years ago are still giving day-after-day service.



A Standard
DELCO-LIGHT
NOW
Completely
Installed—
for a first
payment of

\$97.50

Ready to turn
on the lights

What This Offer Includes

Here are the complete details of the liberal offer which puts Delco-Light in your home, completely installed, for a first payment of only \$97.50.

- 1 One standard Delco-Light Plant together with a standard thick-plate, glass-jar Delco-Light Exide Battery. Freight prepaid to point of delivery.
- 2 Installation of plant and battery—purchaser to furnish concrete base and battery rack.
- 3 Wiring of house for ten lights—to be located wherever specified by purchaser. Wiring material furnished with plant.
- 4 One general power outlet to be located in house wherever specified by purchaser.
- 5 Standard set of ten (10) drop lights with sockets, installed in the house.
- 6 Ten (10) standard electric light bulbs.

Mail This Coupon

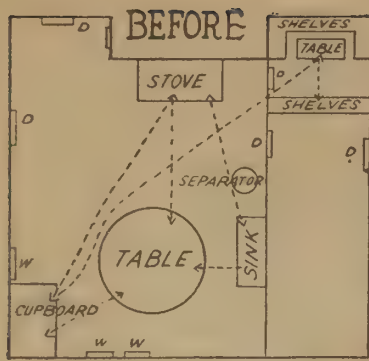
Delco-Light Co.
Dept. D-13,
Dayton, Ohio

Please send, without obligation, full details about Delco-Light and your plan of easy time payments.

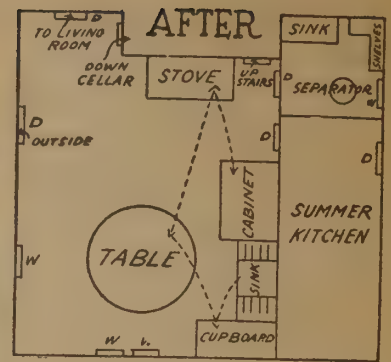
Name _____

Address _____

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At center is the modern kitchen with pass cupboard, hot and



cold water, etc., in the farm home of Cortz Jones, Indiana

Bringing the Farm Kitchen Up To Date

The Rejuvenation of Aunt Mary's Workshop

By MORDA V. COLEMAN

A FARM kitchen. Immediately you think of your grandmother's or Aunt Mary's kitchen with its hospitable, welcoming air at Thanksgiving or its warmth and solid comfort at Christmas. But did you ever look beyond this comfort with a critical eye to see how far grandmother had to walk in preparing a meal or whether the kitchen possessed a cupboard of any sort? Nine times out of ten you will find that the old-time country kitchen appears to have been an after-thought of the builder, tho the most lived-in room in the house.

My aunt's kitchen certainly did not look like an after-thought. It was too large for that. But the first day of my visit was enough to convince me that there was something sadly wrong with it as a workshop.

The room was a large, sunny one, fully 16x10 feet in size. There were no cupboards and all kitchen utensils and supplies had to be kept in the pantry, fully twelve feet from the table. The room boasted six doors and three windows. These broke up the wall space in such a way that it was difficult to arrange the furniture.

The room was not a perfect rectangle, either, as a large space was taken out of one end to allow for stairs. The only possible place for the cook stove was against this end wall. The round table, which was used for both kitchen and dining purposes, was at the other end of the room. On one side of it in the corner stood the dish cupboard.

On the other, against the wall, were the separator and wooden sink. In the corner next the stove, the pantry and stair doors opened and clashed most of the time. The pantry was a large one with a window, and shelves around the walls. A small work-table stood under the shelves but the room was not large enough for efficient or comfortable work.

The regular process in getting a meal was to go from stove to table, from table to pantry, from pantry to cupboard, from cupboard to stove, and so on, back and forth, constantly hindered at night and morning by the men coming in to use the separator and wash for the meal. Aunt complained that her work was always ahead of her; it took most of her time to get meals and wash dishes.

"Have you ever thought of getting a kitchen cabinet to keep your supplies together?" I asked her.

"Yes, I often have; in fact, I have one picked out at Nichol's, but I really don't know what I would do if I had it. There is no place to put it."

"There must be some way to arrange this kitchen so your dishes and supplies will be closer to where you want to use them."

"I'VE often wished, too, that I could throw the separator out of the window," she said in a burst of indignation. "It makes so much dirt and is always in the way."

I had been busily recalling some of the principles of efficiency I had learned in household management class the year before. "We were told that there are three processes which go on in a kitchen—preparing, cooking, and serving—and that the equipment for each should be grouped together."

"Why, then, that would mean that your supplies and dishes should be around the table where you work—"

"And that your paring knives should be near the sink where you would peel and clean your vegetables and spoons and beaters in or on your working table. The dish cupboard should be near the dining table so it wouldn't take so much time to set the table."

"But what about dish washing? That is a bugbear for every woman I know."

"The best way is to have a sink with two drainboards. Stack the dirty dishes on the left hand side, wash them in the sink, and put them with the right hand on the other drain

board to be scalded. After wiping, they can be put away in the cupboard, which should be at the right of the sink. You see, your whole dishwashing process then goes from left to right, or the order can be reversed from right to left if that is easier for you. Time or energy is wasted by continually crossing hands or having clean and dirty dishes stacked in the same place."

"That sounds fine, but how can I have a sink like that in this place?" and she surveyed her crowded kitchen with disgust.

"May I see if I can think of a way to change your kitchen, provided you buy a cabinet?" I asked, full of desire to put my theories into practice.

"Certainly, child, but I'm afraid you'll be disappointed."

AS a start I divided all the kitchen furniture into two classes; that which could be moved, and that which could not. My first startling discovery was that there was no reason for anything, except the cook stove, being where it was. In my mind's eye, I took everything but that out of the room. I immediately saw that the only place for a kitchen cabinet was against the outside wall where the sink and separator now were.

But the sink could not be pushed to the corner because it would be neither convenient nor sanitary to have the men wash beside the cabinet where the meal was being prepared. Where could we put the separator and sink?

Two weeks of thinking and planning followed. A secret consultation with my uncle resulted in my aunt's going away for a three days' vacation. A few days of rainy weather following made the carrying out of my plans doubly easy, since I had help from all the household.

I will confess that I was a little nervous when uncle went to town after the cabinet. Only a bad headache kept me from accompanying him. What if he chose one without a tin-lined, mouse-proof bread box or a satisfactory flour sifter or a smooth, easily cleaned table top on which to work? When I saw his purchase I was ashamed of my doubts, for the cabinet had all these desirable characteristics and many more. When it was placed against the side wall and the dish cupboard against the end, a space was left between.

This was the logical place for a sink, so I had a zinc one, with two hard wooden drain boards, made to fit exactly in this space. The drain boards were each made of one board so there would be no trouble with cracks spreading.

While uncle and the boys were working, I gave them a little lecture on why women complain of tired backs.

"There is a right height of working surface for every person. Some one has taken average figures and computed that for a person five feet high, the working table should be twenty-eight inches from the floor, and that for every five inches difference in height, there should be a corresponding two and one-half inches difference in the height of working surface. Now, aunt is five feet—"

"Four inches," shouted Ted, the fourteen-year-old. "Then this sink should be thirty inches from the floor!"

"Good for you!" I cried. "That means that the bottom of the sink should be that far from the floor, not the edge. She doesn't wash dishes on the edge."

I had found a wire basket which fitted into the sink cross-wise, filling one-third of it. This made a splendid place to scald dishes and leave them to drain, after which they needed little wiping.

When the sink was completed and in place, a hole was bored in the outside wall and a pipe run from the drain in the middle of the sink thru the wall outdoors. This was one part of my arrangement of which I was rather [Continued on page 114]

SUCCESSFUL FARMING

ATWATER KENT

R A D I O

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IF YOU are located miles from any city, let an ATWATER KENT bring the city to you; let it be your magic carpet and take you where something new is always happening.



At the touch of your fingertips, you can command an endless variety of entertainment—news, sermons, music, lectures and plays—the best from everywhere. Things that once you had to travel miles to hear, things that perhaps you have never heard before will be yours every night with an ATWATER KENT.

What an ATWATER KENT has meant to thousands of farm homes in education and entertainment, it will mean in yours. Night after night it will faithfully serve you, putting you in touch at an instant's notice, with the outside world.

What to do each evening will never worry you again. An ATWATER KENT will keep the young folks at home. It will make your living-room a more cheerful place than ever; a place where guests delight to linger.

Nothing else that money can buy will more adequately fill a long-felt need:—nothing else can so completely satisfy every member of the family and bring such lasting enjoyment.



Atwater Kent for the Farm Home

ATWATER KENT is the radio you have been waiting for—well within your means.

From every standpoint it is the ideal radio for use in the farm home. It combines every feature that assures radio satisfaction for years to come; it is sturdily constructed and can never wear out or need repairs as a result of service.

With an ATWATER KENT you have powerful reception, you can get distance—you can select the station you want, you get volume without distortion and anyone can easily operate it.

In ATWATER KENT there is quality beyond question, there is scientific, precise design and master workmanship. Every part, from the tiniest wires to the beautiful, polished cabinets, is made from the finest materials that money can buy.

Go to your radio dealer's today and ask for a demonstration. Six receiving sets and three loud speakers give you a wide range of choice. The sets are priced from \$65 to \$120 and the loud speakers are \$15, \$20 and \$28.



Back of Atwater Kent Radio

BACK of ATWATER KENT Radio there is strength—there is a tremendous factory with laboratory and manufacturing facilities that are not surpassed in the whole world, and back of that factory there is the accumulated experience of more than a quarter of a century in the manufacture of scientific electrical instruments.

Today, on the radio, the ATWATER KENT name plate is an assurance of satisfaction. ATWATER KENT owners everywhere will confirm this:—they know that it means master performance, that back of this name plate there is an outstanding achievement in radio engineering.

Interesting literature on request

ATWATER KENT MANUFACTURING COMPANY
4716 Wissahickon Avenue, Philadelphia, Pa.

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The Girlish Complexion—

Every woman who wishes to retain that soft, clear, attractive, girlish skin may depend upon Hinds Honey and Almond Cream. This pure snow-white lotion comforts and refreshes the skin. It is fragrant, delightful, easy to use, yet sure in yielding most gratifying results. Prevents roughness and chapping and forms a wonderful base for face powder.

Hinds Cream

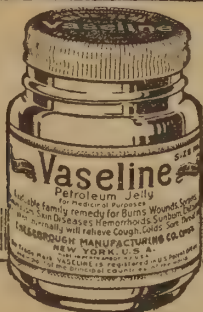
Honey and Almond

Soothes and heals the skin after shaving. Quickly stops the sting, heals cuts and the close shave effect.

Write us for a Trial Bottle, FREE. Mention dealer's name.

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Soap to Cleanse
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Absolutely Nothing Better



BRINGING THE FARM KITCHEN UP TO DATE

Continued from page 112

dubious. "I suppose that pipe will be frozen all winter," I remarked.

"Reckon we'll have to run it underground before then," returned uncle cheerfully. "The boys and I have just been doing a little figuring and don't see why we can't pipe water down here to the sink from the barn. Don't know why we didn't think of it before."

"Fine! And now the separator!" I was eager to see the final result of our work.

We took down all the shelves in the pantry behind the door and part of the others. A piece of heavy linoleum, left from the kitchen floor covering, was cut to fit and tacked down securely. The old sink we placed on one side and the separator a little to one side of the middle of the floor near the window. A bracket lamp on the wall provided light, when necessary.

Towels and clean wash cloths were put on one shelf above the sink and strainer cloths, towels for wiping parts of the separator, milk pails, and other things used in caring for the milk on the others.

We moved all the supplies possible from the pantry to the kitchen cabinet, which had a place for nearly everything used every day. Nails above the sink provided a place for small utensils to hang.

With our work done, we began wishing for the mistress of the house to give her approval. Before supper that evening, who should appear but aunt.

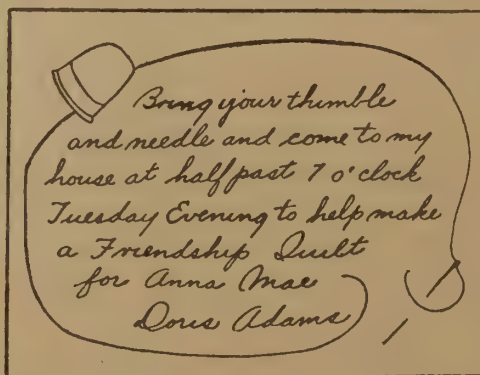
"I felt real rested," she said cheerily "and I just kept thinking of you, child," trying to do all the work in this kitchen— Here she stopped, for she had reached the despised kitchen.

Her first remark, after she had investigated all the changes, was entirely characteristic.

"You folks must be hungry after all this work. I'll just get right busy and get a good, hot supper."

A FRIENDSHIP QUILT

If you want to give a party in honor of a girl who is soon to be married and want to do something different, why not have a "Friendship Quilt" party? Each girl at the party would make a block or two for the quilt and put her name or initials on them. The bride would enjoy looking over



the quilt with her friends' names on the blocks for many years to come.

Cut out the blocks beforehand. You will need six yards of unbleached muslin and three yards of plain colored goods. Cut forty-nine blocks twelve inches square from the unbleached muslin. Cut four strips from the colored goods for a border around the quilt. These strips should be four inches wide and two and a half yards long. Cut out a figure or two to be appliqued to each block. Pin the figures to the

blocks so that so much time will not be lost at the party. The picture below shows a different shape to be put on each block, but if you wished to save time, you could make several of the simpler forms instead of cutting out so many shapes.

If you send written invitations, write informal notes asking the girls to bring their thimbles and needles. Draw the outline of a thimble and of a needle and thread on each invitation, as the cut above suggests.

Let each girl applique one or two of the blocks, using any stitch she prefers, and let her work her name or initials on the



block. Be careful to use thread that will keep its color. As soon as some of the blocks are finished, one girl can go to the sewing machine and begin sewing them together, seven rows of them with seven blocks in each row. When the rows have been sewed together, sew the colored border around them.

After the quilt top is finished, serve light refreshments, lemonade or coffee and cake, or whatever you wish.—Hazel Shonwalter.

FREEHAND COOKING

Our children who are studying art have a good deal to say about free-hand work. It has often seemed to me it is a term to be applied with peculiar force to the art of the cook who works with precise measurements and keen judgment, but at the same time with lively imagination and an unflagging zest for experiment. Cooking can be drab and endless drudgery, or it can be a continual game and adventure. Which it shall be lies largely with the cook herself and her attitude to her work.

When I was married I knew next to nothing about cooking. I cannot recall that I ever felt any special desire to learn during the years when I was at home and should have done so; and my mother, having the help of my capable domestic-minded sister, left me to my school work and my music. Then I took a position which kept me away from home except for occasional Sundays; and soon I was wearing the ring of the man who two years later was to undertake to be the victim of my cookery experiments. Simultaneously with the ring I acquired a consuming desire to become an expert cook. The ambition has persisted for twenty years. I am not yet an expert; but I have learned some things that I wish I might pass on to aspiring young housekeepers.

During those two years of my engagement I boarded, much of the time at restaurants, with only the briefest of home vacations. I had no chance to try my hand at cooking even the simplest things. But I collected recipes, reams of them, from my mother, sisters and aunts, my landlady, my friends, and the magazines. I read voraciously the household periodicals; I bought cook books. And with it all, when I undertook to cook in my own kitchen, I was in abysmal ignorance of most of the underlying principles of good cookery. I achieved some fair results by following exactly a reliable recipe.

achieved some dismal failures by following, with the same care, some that were not reliable. And I could not discriminate between them. Judgment I had none; experiment without recipes I dared not; altering a recipe in any way was not to be thought of. For every separate thing I must have a definite rule.

I recall with much amusement the day, early in my housekeeping, when I wished to make that delectable corn-food known to my girlhood as Johnny-cake. For some reason I had never asked my mother for that particular recipe, and a search of all my books failed to reveal any. There were various corn-breads, and corn gems, and corn muffins; but no Johnny-cake. So I made muffins from mother's rule, and wrote to her for her recipe. She wrote back: "I always use the muffin recipe; the only difference is that I bake it in a cake pan. You know those two recipes for muffins, one with sweet milk and one with sour, are all you need. Vary them all you please with different flours and meals."

How simple! The light had begun to dawn on me. I learned, in time, that fundamental thing, that it is not recipes, but methods, that the cook must master. Once she has learned the underlying principles there is hardly a limit to the experiments she may try and the variations she can command. And when she has learned the fundamentals and has acquired the confidence to vary and combine according to what she has on hand, or the result she wishes to achieve, she has mastered what I call freehand cooking.—M. R. M.

A TEACHER'S TIMELY REMINDER

About the time April comes tearfully around the corner, and you and I get the desire to start our white sewing, Jimmy comes home from school with untouched dinner. Maybe it's messed over but it's mostly untouched. Do not scold, mother, for Jimmy cannot help it. It's the spring working inside of him that causes the lack of appetite. If you had to eat cold snacks all winter, I believe you would be ready to quit by spring also. So lay aside your patterns and white goods and concentrate awhile on Jimmy's dinners.

Not so many meat sandwiches and more spicy eatables: sandwiches spread with deviled egg mixture will be fine for a change. Spread some nice, thin brown bread with dates cooked to a paste and substitute this for cake. Pie is out of the running for the remainder of the year. I should advise you to procure some lettuce from the grocer once in awhile for a nice salad. There are so many kinds of salads, potato, vegetable, bean and all types of gelatine. Then there is always the beloved fruit salad.

Let's not forget fruit either. There should be a small jar with screw lid in each child's dinner pail, but now fill it with fruit instead of puddings. If you have plenty canned, so much the better, but supplement this with plenty of fresh oranges, and occasional canned pineapples and white cherries. Leave the bananas hanging in the grocer's window. Never, never say it is too expensive to buy fruits for the dinner pail. It is cheaper in every way than the tonic Jimmy will eventually require if you do not.

As a teacher I too often see the results of spring. Mary's grades take a backward slide. Jimmy becomes restless and annoying. Mary does not feel like studying and Jimmy is past caring. Then come the home reports! Mother glances at the failure marks and snorts derision at the teacher. Such remarks as "I thought she said Mary was above average last fall," are too often heard.

The least you can do, mother, is help the teacher out. Encourage your little folk. Become actually interested in their reports from school. See to the nourishment problem. You will be thrice repaid when you see your healthy little youngster so proud of his promotion.—E. M. S.

A MESSAGE FOR MOTHERS



—from Seven to Seventy

Delicious
in
Flavor—
Rich
in
Nutrition



IT'S hard to picture your child of seven at the age of seventy. But be assured of this—health, alertness of mind, even the possibility of "three score and ten," depend on the nutritive elements in food which build one's body day by day—especially in the formative years of childhood.

PARENTS can almost see this process at work when they serve their children Karo. The added energy, vitality and strength which Karo gives is afforded largely by the high percentage of Dextrose Karo contains. As your doctor can tell you, Dextrose is essential to furnish the fuel of the body—build vigor and health.

AND every youngster enjoys the delicious flavor of Karo. There are three kinds of Karo—Blue, Red and Orange Labels—the nutritive value and digestibility of all three are practically equal.



An Opportunity!

Get This Beautiful Aluminum Syrup Pitcher
—Worth \$1.00 for 40c and 5 Karo Labels

Buy 5 cans of Karo from your grocer, send labels to address below with 40c and you will receive the Syrup Pitcher by parcel post.

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Watching the Better Baby Grow

Simple Rules for Checking Up on His Development

By MRS. BYRON C. DRISKILL

WE are told to watch baby grow, and most young mothers are anxious to do so, but do not know how. Experienced mothers will give all kinds of advice, some wise and some otherwise, but most of us are afraid to risk the advice of a mother who has "reared ten and lost four."

The young mother will find the most helpful book imaginable to be "The Care and Feeding of Children," by the late L. Emmett Holt, M. D., published by D. Appleton and Co. Dr. Holt was, until his death about a year ago, considered the greatest authority in the world on baby care. I have found this book to be, in nearly every case, in agreement with the baby specialist to whom I have occasionally taken my babies. The young mother may be a little disappointed in the book when she first gets it, but as she refers to it, from time to time, she will find it almost indispensable, especially if her baby is a "bottle-fed" or partly bottle-fed baby. Buy or borrow some scales and weigh the baby. If it is an average, it will, at birth, weigh about seven and one-half pounds (girls usually average seven and boys eight pounds). This does not mean that a three-pound or a four-pound baby is necessarily abnormal. They may develop into perfectly normal men and women, so don't be disheartened because your baby is not an average, but if at all possible, have him looked over by a good baby specialist to ascertain whether anything is wrong. If he grows normally, he is usually thriving, tho sometimes he puts on fat and does not grow sufficient bone nor muscle. This is usually the fault of his feeding and must be corrected to prevent rickets or other diseases caused by malnutrition. Sometimes it is lack of sunshine that causes rickets. Let the baby have plenty of outdoor sunshine, for his health's sake.

Assuming that your baby is an average, you can most easily watch him grow by following certain rules. Weigh him every week if possible for the first six months, and once every two weeks for the next six months. The second year he should be weighed once every month, tho his gain in weight then is less noticeable and less important. If the baby steadily gains in weight, and his flesh is firm, not at all flabby, and if he sleeps sufficiently and is reasonably good-natured, then you can assume that his growth is about right. Dr. Holt says there is usually a loss during the first week of from four to eight ounces. After this, a healthy child should gain from four to eight ounces a week till it is six months old, then, from two to four ounces a week till it is a year old. At that rate, a child, during its first six months gains from one to two pounds a month. This means weighing him without clothes or with exactly the same amount of clothes, for that is the only accurate way. At five or six months, the average healthy child has doubled his weight and at a year he has nearly trebled it. Sometimes during hot weather or a teething period, or any minor illness, the child does not gain. In severe illness he loses.

After the first year the growth is not so continuous, but the child should be weighed at regular intervals to see that he is not losing, but generally gaining. At one and one-half years old he should weigh about twenty-four pounds (girls one pound less), and at two years old about twenty-seven. Following is a chart of average weights of boys after this age:

3 years old.....31 pounds	9 years old.....60 pounds
4 years old.....35 pounds	10 years old.....66 pounds
5 years old.....40 pounds	11 years old.....72 pounds
6 years old.....45 pounds	12 years old.....80 pounds
7 years old.....49 pounds	13 years old.....89 pounds
8 years old.....54 pounds	14 years old.....98 pounds

Girls weigh about a pound less up to eleven and one-half years, then go about a pound above boys, on an average. These figures are taken from Dr. Holt's book mentioned above. If your child is underweight or overweight, have him examined. All doctors advise periodical examinations, anyway, as that is

the best way to foresee possibilities of disease and ward it off.

Another thing that worries many young mothers is the question of a child's mental growth. Older mothers are so prone to forget at what age their babies did certain things that if a young mother pays much attention to their talk she will finally throw herself on the bed and weep, thinking her baby is destined to the insane asylum or home for imbeciles. As an instance of this forgetfulness, a reliable woman told me that her oldest child walked at twelve months old. I happened to remember that there were eighteen months' difference in the ages of this and the next child, and that I visited the mother when the second child was two weeks old. The older was not

yet walking and the mother was complaining that the nurse let the older one's napkins get mixed with the younger one's. Today that

mother declares that her oldest one had self-control enough to wear unions at eighteen months! Such is the way mothers

forget. For another instance, a relative of mine spoke of her first baby as having cut a tooth at three months old. One of my older sisters remarked after she was gone, "Well, she was about five months wrong." Then she cited the fact that a little cousin had cut his first tooth at three months old, and that a doting aunt of the first-mentioned relative's baby threatened to buy this first baby a set of false teeth as he was so late in cutting them. So, young mothers, don't grieve over "old wives' tales." Compare your

babies with the averages that eminent doctors have formulated, and if baby compares favorably with them don't worry because Mrs. Green says her baby could sing "Amazing Grace" when he was twenty months old.

Dr. Holt says that the average child usually sits erect at seven or eight months old, and stands with assistance at eleven or twelve months. It first attempts to walk at twelve or thirteen months old and runs alone at fifteen or sixteen months. At one year it says "papa," "daddy," "mama," or other single words, and at two years it makes short sentences. As for teeth, the age at which a baby begins cutting them varies in families and in individuals. The two central lower teeth sometimes appear as early as three

months, and instances have been known where the baby was born with teeth. Usually these come from the fifth to the ninth months. I knew one baby that had no teeth till he was a year old, then all of his teeth tried to come thru at once.

A rather ignorant mother told me that her boy named himself at three months old. He liked a certain baby food and, according to his mother, he said to her one day, when he was three months old, "Mama, I believe I'll be named for this." Now, she had merely forgotten. Had he talked at three months, newspaper men would have found him out and his name and picture would have been printed in newspapers all over the civilized world. I believe in baby books. Tho parts may be sentimental, the dates, weights and such may be of considerable

assistance in keeping you from making some other mother feel sad, if for nothing else. In keeping such a book, care should be taken to keep it accurately, else it will be of no use.

Don't push your child. All the best doctors say, "Let it take its time to walk." I noticed recently that some doctor says to prolong the creeping or crawling period as long as possible, for it is the natural position and therefore is good for the health. If you have a creeping pen this can be done without much trouble; spread an old quilt in the bottom of the folding pen and put baby and such toys as you think he needs into the pen and leave him to play.

(Continued on page 118)



Sunshine is good for babies as well as for daffodils



Do you like yours better with or without hair? The sturdy two-year-old above is helping mother feed the chicks

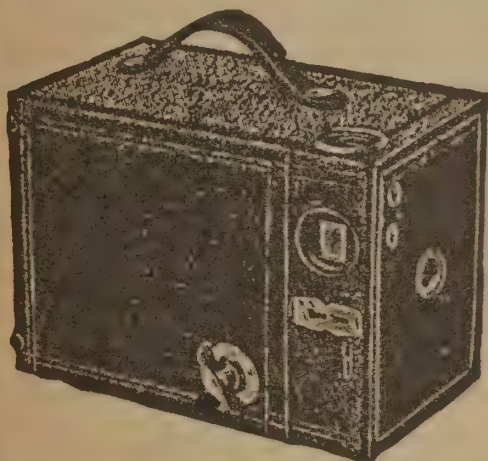
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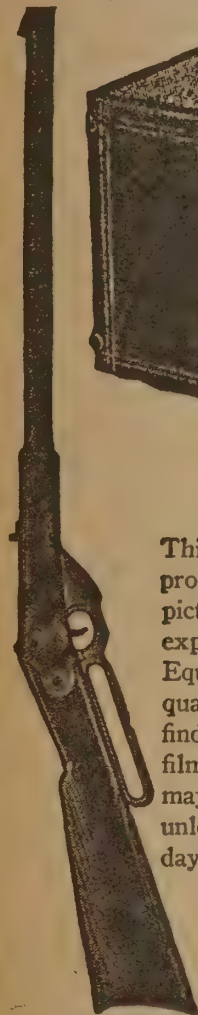
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New Zealand Rabbits

Here's a splendid chance to get started raising New Zealand Rabbits. This is a very interesting and profitable business. Rabbits are becoming more popular each year. Be the first in your neighborhood to get a pair of this famous breed of rabbits.

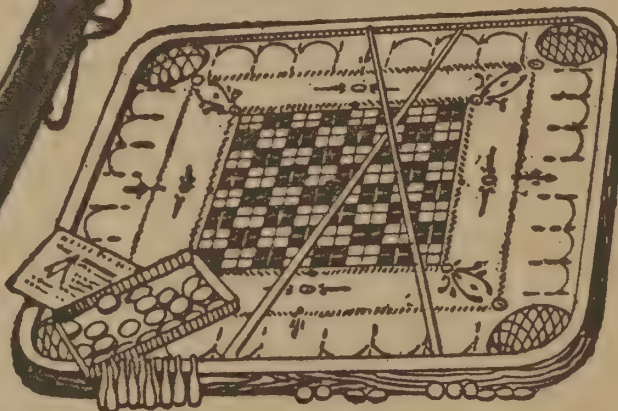
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The Hamilton is a 22 calibre, accurate, hard shooting rifle. It is chambered for 22 long or short rim fire cartridges. A solid breech block makes the rifle safe from rear explosion. Barrel is bronzed, rifled with great care, making it unusually strong, durable and accurate.

Mail the coupon below for details of our Rifle offer.



Carrom and Crokinole Board

This board is a dandy. Twenty-nine inches square and fitted with the famous round corner white maple rim. Seventy-one pieces of equipment are included, so that you can play a total of 57 different games. The entire family will enjoy this outfit.

Coupon below will bring you full details of our Carrom Board offer.

Lever-Filling Fountain Pen

This is the finest Pen we have ever offered. The point is 14K solid gold, iridium tipped. Barrel is made of the best Para rubber. It will write smoothly and will give you the greatest satisfaction. It has the Lever self-filling device that is used only on the best grade of pens.

Send the coupon now for complete details of our offer.



Clutch Pencil For promptness



If you are really interested and want to earn one or more of the attractive rewards shown on this page, check in the coupon the article you want. Fill in your name and address and mail to us. Send the coupon promptly and we will send you complete details by return mail. Inclose 2 cents in stamps and we will also send you the dandy clutch pencil pictured above. Pencil will be sent only to those who state which reward they wish to earn and also send 2 cents in stamps to cover mailing charges.

"Dear Mr. Meredith: I got the Rifle and was very glad. My friend Cecil Williams is thinking about trying to get one, too. The people liked the paper and it was easy to get them to subscribe. I will try to get some more rewards. The rifle was a good one, too. It killed a hog the first shot. Please send me a reward book. Very truly yours, L. K.—West Va."

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Dear Sir: I am interested in earning the reward checked below. Please send me at once complete details about your liberal offer. I also inclose 2 cents in stamps to pay postage and wrapping on pencil offered for promptness.

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WOMEN who have had years of experience cooking with various stoves can best appreciate the advantages of Oil Ranges equipped with Lorain High Speed Burners, because they are easy to light, quick to heat and economical of oil. The clean, blue, intensely hot flame strikes directly against the kettles and pans. It's so much easier to use a Lorain Burner Oil Stove than to coax a draft in a "cranky" coal or wood stove. No kindling, no ashes and dirt, no wait—just light the Lorain Burners and cook!

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Oil Ranges equipped with Lorain High Speed Burners are made in many sizes and styles. Materials and workmanship are of the best. If you do not know where you can see these excellent stoves demonstrated, write us for the name of the Lorain dealer nearest you.

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Many famous makes of Oil Cook Stoves are now equipped with Lorain High Speed Oil Burners, including:

New Process—New Process Stove Co. Div., Cleveland, O.	Quick Meal—Quick Meal Stove Co. Div., St. Louis, Mo.	Clark Jewel—George M. Clark & Co. Div., Chicago, Ill.
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1925

LORAIN

HIGH SPEED OIL BURNER



WATCHING THE BABY GROW

Continued from page 116

Last of all, don't worry if your baby is slow about walking and talking. If he doesn't begin to say simple words by the time he is two years old, you may then fear that he is a mute, or if he doesn't walk by that time, you may fear he will never walk. But have some good doctor look him over before you despair. Don't grieve because your child does not walk nor talk so early as your little neighbor. I have known one tot to walk at eight months old, and I have known of several others who walked at seven, but I have kept my head when ours did not walk till fifteen and thirteen months, respectively, for I have learned that precocity is not worth much.

DESSERTS FROM DRIED FRUITS

There are no daintier nor more attractive desserts for early spring than those made from dried fruits. As a rule dried fruits are a bit less expensive than fresh fruits, and the variety they add to the meal compensates for the extra work required in their preparation. The fresh fruits are to be used freely, of course, but for desserts the others are excellent.

In buying dried fruits for this purpose, select the smaller size as they are always cheaper, being careful however to see they are free from blemishes and foreign matter. Fruits are sorted as to size; thus we have prunes 30-40 and 80-90, meaning that there are either thirty to forty to a pound or from eighty to ninety. The latter, naturally, run much smaller. All dried fruits should be thoroly looked over and scrubbed with a brush before soaking overnight. They should be cooked in the same water in which they are soaked.

Norwegian Prune Pudding

Soak half a pound of prunes in two cupfuls of cold water and cook until soft. Remove the stones and add one cupful of sugar, a small piece of stick cinnamon, and one and one-half cupfuls of boiling water. Cook together ten minutes. Remove the cinnamon and add one tablespoonful of lemon juice. Mix one-third of a cupful of cornstarch with a little cold water, and stir into the utes, pour in a mold to chill. Serve with cream. The prune pits may be cracked and the meats added to the pudding for flavor.

Prune Pudding

Soak three-quarters of a pound of prunes in cold water to cover, cook until soft, then remove stones and cut into small pieces. Beat the whites of four eggs until stiff and add gradually the prunes over which one-half cupful of sugar has been sprinkled.

Pour into a buttered baking dish and bake in a moderate oven twenty-five minutes. Serve cold with whipped cream or with soft custard made from the egg yolks.

Apricots and Prunes

Prepare equal parts of dried apricots and prunes and cook together until soft. Add sugar to taste while cooking.

Fig Pudding

To a quarter of a pound of suet finely chopped add half a pound of figs and one large sour apple which has been run thru a food chopper. Over one cupful of bread crumbs pour a quarter of a cupful of hot milk and add two eggs well beaten. Combine these two mixtures and add three-quarters of a cupful of flour, sifted with one teaspoonful of baking powder. After it has been thoroly mixed, pour into buttered baking powder cans and place in a pan of hot water. Cover tightly and steam four hours. This

pudding will keep for several weeks in cold weather and can be reheated before serving. Serve with lemon sauce.

Fig Custard

To two tablespoonfuls of cornstarch, three-quarters of a cupful of sugar and one-fourth teaspoonful of salt thoroly sifted, add one quart of scalded milk. Cook in a double boiler ten minutes, then add the well beaten yolks of three eggs and cook three minutes longer. Have ready half a pound of figs cut in small pieces which have been cooked until soft with a quarter of a cupful of sugar and one cupful of water. One and a half tablespoonfuls of lemon juice also must be added to the figs. Combine these mixtures and cool. Before serving make a meringue of the three egg whites and three tablespoonfuls of sugar, and flavor with lemon juice. Either pile the meringue over the pudding and brown slightly in the oven, or drop spoonfuls of the meringue on a pan of hot water and put in the oven to brown. The little browned meringues may be added to each serving of the custard.

Date and Nut Pudding

Chop the nut meats from one pound of English walnuts. Stone and cut into small pieces half a pound of dates. Beat the whites of five eggs until stiff and add gradually one cupful of sugar with which three teaspoonfuls of baking powder have been sifted. Fold into the egg mixture the nuts and dates, and bake in a buttered tin forty minutes in a very moderate oven.—M. H. T.

A MOTHER'S EMERGENCY KIT

As the mother of an energetic family of boys and girls, I have found it necessary to keep some sort of emergency kit. A first aid supply need not be elaborate. If one has no medicine cabinet, a box or basket in a place of easy access will serve the purpose. A few necessary articles kept together will be found better than a great variety where one must search for each needed item.

The following will be found most useful:

Absorbent cotton.
Torn and rolled bandages. A clean old sheet serves nicely.

Adhesive tape to hold dressings in place.
Iodine, a strong disinfectant for cuts and scratches. Keep an air tight jar of pellets ready for applying the iodine. These are made by wrapping tightly one end of a tooth-pick with absorbent cotton.

A mixture of equal parts of sweet oil and lime water is a soothing ointment for burns. It may be applied with a pellet. Or a paste of baking soda and water is cooling to a burn.

A solution of one teaspoonful of boric acid powder and a pint of boiled water is an excellent antiseptic as a mouth and eye wash.

An old-fashioned but excellent remedy for clearing the eye of a foreign object is to drop two or three flax-seeds into the eye. They come out readily and cause no discomfort.

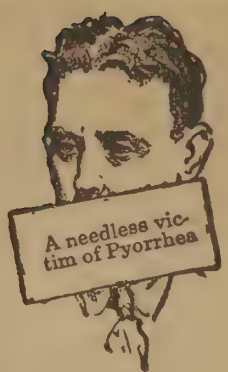
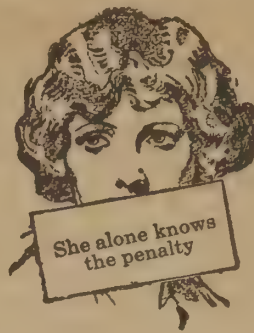
For the swelled bumps and bruises which little ones acquire, apply butter.

A bottle of camphorated oil to rub on the chest in case of colds. In this connection, I would suggest using an egg rather than water for mixing a mustard plaster, as it will not burn the skin. If you are using a hot foot-bath for a cold, add a tablespoonful of mustard to the water.

In the matter of cathartics, a mild mineral oil may be used for ordinary cases. But for illness, castor oil or an enema may be used before the doctor arrives.

Hydrogen peroxid diluted, makes a good throat gargle. Plain salt water, hot, is also very efficacious.

If the above articles are kept in readiness, and others as they are found useful, no mother need fear the minor accidents and emergencies as she meets them in the rearing of her children.—N. R. M.



4 out of 5

Dental statistics show that four out of every five over 40—and thousands younger, too—are victims of dreaded Pyorrhea. Will you escape?



Pyorrhea is a disease of the gums—not the teeth

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COOKING HINTS

When melting chocolate, grease with butter the pan in which chocolate is to be melted. This prevents the waste which ordinarily comes with the chocolate sticking to the sides of the pan.

When cutting bananas for salad always squeeze a little lemon juice over them, and the bananas will not darken. In this way they can be prepared beforehand and the last-minute rush avoided.

To keep bread or cake moist, place a piece of apple in the box with it.

To keep icing from becoming sugary, add a teaspoonful of vinegar to the sirup.

When making lemon pie, let the filling get cool before putting into the pastry shell and you will find that it will not run as it does when put in hot.

If your boiled frosting doesn't harden, place the bowl of frosting in a basin of hot water and allow water to boil around the bowl for five minutes, stirring constantly.

MY FIRELESS COOKER

The fact that I really have a fireless cooker seems to me like the realization of a pleasant dream.

Some years ago I went with my grandmother to visit an old friend of hers, who made her home with a daughter. We went quite early in the morning and after we had all been visiting and trying to keep cool in the pleasant living room for some time, a voice from the porch surprised me by saying, "Lily, what are you going to have good for dinner?" I could see the porch but no one on it, and I found it was a parrot reminding us of the time of day.

I went with Lily to the comfortable kitchen and tho I didn't ask the question the parrot had asked I admit that I did wonder what we were going to have for dinner, for I couldn't see any preparations for it and it was then nearly noon. Lily set the table and then went to a sort of chest at one side of the room, opened it, and took out a nice juicy roast, (that was as tender as could be) lit one burner of her oil stove and made the gravy. I think she had three wells in that chest, which proved to be a large fireless cooker. I do not remember exactly what we had for dinner but I do know that we had a first-class dinner, and it all came out of that cooker, except the dessert and ice tea. The dinner was ready, too, in good time, and it all seemed so easy.

On our way home I remember of saying to grandma that I thought that cooker was very wonderful and that if I ever kept house myself I was going to have one. Grandma, of course, (as most older people do) advised me to go slow, saying in her good way, "It is all right when one can afford it but there are many other things you will need worse and you can get along without that, for it costs a lot of money."

True, there were lots of other things I needed and I did get along without a fireless cooker for about eleven and one-half years. But I have one now and it didn't cost me a great deal of money either, in fact only about \$1.65.

Last February Miss Lynn held her first home management training school in our part of the county. I attended, and while at the meeting we were shown how to make a handy, satisfactory, fireless cooker out of a cheese box, newspapers, a little cement and sand and a tin can, and I just wondered why I had not done that before for I had read of it.

I then made up my mind to do it as soon as I could get the needed material together. It took me some longer than I had expected it would as I was unable to obtain a cheese box of the proper dimensions in our little town. I waited for some time and decided that if I could not get a cheese box, I could get some boards and make a box, so off for town I started. No cheese box of proper size was to be found,

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Keep the little white jar of Musterole on your bathroom shelf and bring it out at the first sign of tonsillitis, croup, neuritis, rheumatism or a cold.

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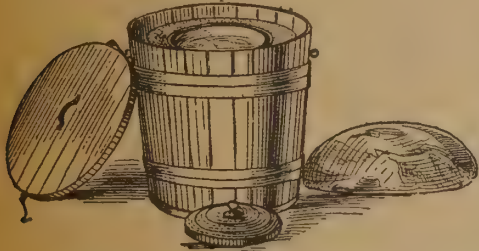
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but I did see a coffee barrel. It was light and constructed much like a cheese box only higher. The dealer sold it to me for fifty cents, the cost to him.

Then I went to the hardware store and got enough galvanized tin to make my well large enough to hold a combination kettle I happened to have. This tin cost me about seventy-five cents. My husband made the tin can or well and cut down the barrel for me. I bought thirty cents' worth of asbestos sheeting to cover the inner can. I used crushed paper for packing. As there must be at least two and one-half inches of packing between the inner and outer containers, I put the top packing into a case, making a cushion of it in order to remove it easily when using



My completed fireless cooker

the cooker. We had both sand and cement at home so I did not count the cost of the little it took to make the hot-plate, using two parts sand to one of cement. I figured I used about a dime's worth of paint for the outside, using some of the paint I had left after painting my woodwork.

The cooker was now complete. On Saturday night I cleaned some beans and put them to soak. In the morning I put my hot-plate in the oven to heat, par-boiled the beans and brought the beans (with a piece of pork for seasoning) to the boiling point. This I did while breakfast was cooking. Later I started some tapioca pudding in the pan that fits into the top of this same kettle and covered all tightly with the same lid, placed the kettle of boiling hot food on the hot-plate in the cooker, covered all quickly and tried to forget it. With potato salad and pie which had been made the day before, we had a good dinner when we got home from church, and it was ready in less time than it takes the range to heat.

The family all had lots of fun joking about the raw cold dinner we were going to have, and I will admit being a little nervous myself, but I felt quite triumphant when I found the beans and pudding perfectly well done and then the family all declared both kinds of food tasted much better than when cooked in the usual way. I was telling a neighbor lady about it and her husband seemed rather to doubt it, but when we told him about our Sunday dinner being well done he seemed convinced and said, "Well, if beans will get tender in the thing, most anything should."

One day we went to Mason City on a shopping trip. Before starting I prepared supper and put it into the cooker. We got home rather late and found company waiting for us. I was delighted, and they somewhat surprised, when I had a good supper on the table in just a jiffy.

My bread seemed slow during the cool spring months when the fire in the heater was not kept going, so I heated the hot-plate slightly and put my yeast in the cooker over night. It rose nicely and the result was good bread.

I like my cooker better the more I use it. I would not take many times the price it cost me and do without it for it is a real time and fuel saver, making meal preparation in many cases an easy matter.—Mrs. N. J. P.

Editor's Note—Farmers' Bulletin No. 771, "Homemade Fireless Cookers and Their Uses," may be had free by writing to the United States department of agriculture, Washington, D. C.

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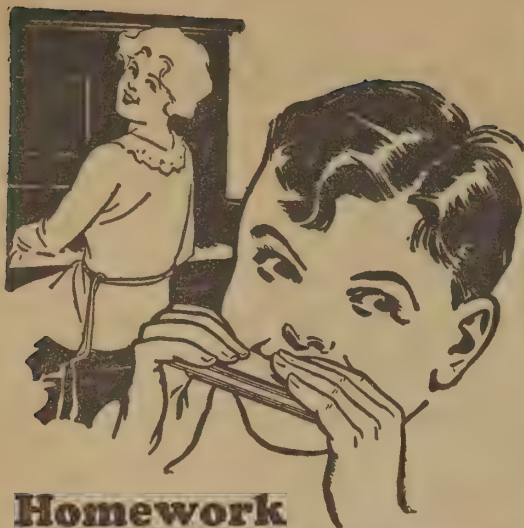
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Points of Etiquette

NOTE—As many questions upon points of etiquette will be answered in this department as space will permit. Address your letter to Editorial Department, Successful Farming, Des Moines, Iowa, and be sure to sign your name. Unsigned questions will not be answered. No names will be published. Those desiring personal answers will please enclose a two-cent stamp.

TRAVELING ON THE TRAIN

EVERY few days there comes to this department a letter from one of our girl readers wishing to know something about the etiquette of traveling. These letters are always of especial interest to me for I can well remember my first long train trip and how concerned I was over doing the correct thing.

In the first place when you plan your trip try to get all necessary information concerning it before you start. Have all arrangements made and be sure that you have plenty of money to take care of any ordinary emergency. If the trip is a long one you will be much more comfortable in a pullman or parlor car than in the day coach. When you buy your ticket see if either of these accommodations is available and the extra cost. You will then be able to decide whether or not you wish to patronize either of them. In any event you will enter your car, find a comfortable seat for yourself (in the pullman you will be assigned a place), adjust your luggage and be ready to enjoy your trip.

Of course you will find much of interest in viewing the country and in watching the other passengers. The girl who is traveling alone will be very careful not to attract attention and under no circumstances will she "pick up" the acquaintance of some man. The youth who flirts with her may be a harmless chap but no girl can afford to cheapen herself by accepting his advances. Be civil to anyone who speaks to you, but be careful not to encourage chance acquaintances.

If there is a dining car on the train and you wish to patronize it, wait until the porter announces the meal, then go quietly into the dining coach. If you prefer to carry a lunch with you that is perfectly all right but remember that the lunch should be simple and always neatly wrapped. Avoid oranges and other foods with noticeable odor. When you have finished eating your lunch pack away or throw away all left overs. Nothing is more disgusting to fellow passengers than seeing someone constantly piecing on food.

When traveling by night you will be most comfortable in a pullman. Arrange for your reservation when you buy your ticket. When the porter has made up your berth for you, retire to the dressing room, get ready for bed, put on slippers and a dark kimono. You will then take your clothing and accessories back to your berth, enter, fasten the curtain and be all ready for a good night's sleep.

Of course you will want to wear correct clothing when traveling. A dark dress, suitable to the season, with smart hat, shoes, and gloves is most appropriate. A wrap of some kind should usually be worn.

There is much to say on this subject of the etiquette of traveling, but if you will remember to conduct yourself in such a manner as to attract no attention to yourself and if you will be careful not to offend others by your actions you may be pretty sure that you are conducting yourself quite all right.

Questions and Answers

An Illinois girl has asked us, "When going out to dinner with a boy friend, what would be best to order? Name several nice dinners. Does one always order a dessert? Also must I give my order to my escort or to the waiter?"

The best answer is to order what you

like! If you know that the boy you are with is none too well-to-do, it is nice to be careful that you do not order too expensive a dinner. Most hotels and restaurants have special suggested menus for luncheons and dinners, and an easy way is to order one of those if it appeals to you. If you care for a whole dinner, order first a soup or fruit cocktail, then meat and vegetables, then a salad, and finally a dessert. Any one of these courses may be omitted if you do not care for it. If your escort asks you what you wish you may tell him; if the waiter asks you, tell him.

"Should a boy have his neck shaved or clipped?" asks a Missouri boy.

Have it clipped, by all means. This applies to girls with bobbed hair also.

"Would it be proper," asks a girl in Minnesota, "for me to give a shower for my sister who is to be married this spring?"

It will be much nicer to leave the giving of showers to those outside your family. To give a shower for one's own sister or daughter is too much like asking outright for gifts, even tho that is not intended at all. You may give a party for her, or a luncheon or supper, and have the girls hem towels for your sisters as part of the entertainment. If a friend of your sister's wishes to have a shower for her, you may help her, or you may even arrange to have it in your home, but you will save yourself criticism if you are not responsible for it yourself.—Bertha Averille.



MINDING MOTHER

"Yes, Mama-love, I did all the things you told me to do while you were gone but Effa—" Leila paused, knowing that Mama-love disapproved of tattling, and, too, she remembered how willingly Effa had helped her pick up her broken string of beads when she caught it on the bed post.

Effa was very busy straightening Bobby's wagon wheels again and did not look up.

"Did you finish your list of things, Nadine?" asked Mother as she removed her hat and gloves.

"Oh, long ago, but Effa stopped so many times—" it was Nadine's time to pause for she called to mind how quickly Effa had dropped her dust cloth to tie up her—Nadine's—finger which she cut while wiping the butcher knife, and how swiftly Effa had run after the mop to wipe up the dish water Nadine spilled.

"Let's see your slip, little daughter," said mother, turning to Effa.

"I thought I had it right here in my pocket," said Effa, searching nervously in each apron pocket. "I must have left it on the desk." After all had joined in the hunt, the smudgy list was found outside by the pump.

"I know now, Mama-love. I lost it there when that man drove in and wanted water for his car," Effa said, handing her slip to her mother. "I gave him a fresh drink, too."

"Yes, and I told her to tell him our folks were not at home and not to bother with him one minute because we wanted to get all thru with our work before you came home," Leila tossed her head virtuously. "She went right on and drew him some water when she could have been all thru watering the chickens and gathering eggs."

Mother scrutinized the slip closely. "Oh, didn't you even straighten up my dressing table or fill the salt shakers?"

"Oh yes, Mother," cried Effa, anxious to please. "I did them but I forgot to cross them out. You know how scared Bobby is when an airplane goes over us. Well, I stopped to take him out and tell him about how it was carrying letters and packages,

so when he goes to school next year, the boys won't make fun of him. You know how the big boys tease the little ones, don't you, Mama-love? I did everything on my list except sew up my gingham apron and—I ran over in the pasture to get some wild flowers to put in the vase on your dressing table and—and I took Bobby and we—I—” Effa was very near tears.

“Effa did take me over in the pasture with her 'cause Nadine and Leila said I was always in their way. I told her I was going to buy her a Shetland pony when I get a little bigger 'cause she played horse with me all the way over and all the way back from the pasture.” Bobby beamed broadly on Effa's downcast face.

“Why, Mama-love, Effa's awful good—almost as good as you are!” cried Bobby, seeing that something was wrong with someone.

“Mama-love knows it, little folks,” she whispered softly, drawing all four children close to her. “All the good little kind deeds you do, things you haven't been asked to do, oh, what a lovely bunch of flowers they make for me! Let's be as ready to stop our work to help somebody else that really needs our help as we are—”

“Ting-a-ling-a ling,” rang the telephone. Mother answered.

“Yes, this is Mrs. Morton. Who? Uncle Lloyd? Well, well; how glad I am to hear your voice. Where are you? At our next door neighbor's? And you were here and did not know this was the place! Well, hurry right back, we will be waiting for you with open arms.” Mother turned from the phone, eyes shining.

“Just think, children, that was Uncle Lloyd whom I haven't seen for ten years—not since Nadine was a baby. He was coming to surprise us and did not dream he was right here getting water for his car. Oh, how thankful I am that I had one girlie who had time to stop and bother to give him water! He is over at Beach's right now and will be back here in about ten minutes.”

“Oh, Mama-love, I'm so sorry, truly I am,” cried Leila, penitently.

“And I, too,” echoed Nadine.

“I'll hurry and mend my apron right this minute, Mama-love,” said Effa, getting the sewing box.—Elizabeth Mack.

BE GOOD TO FURNITURE

In a recent circular published by the extension division at South Dakota State College, Miss Sisan Z. Wilder, home economics specialist, gives some practical recommendations on the care of furniture.

Painted furniture, she says, should be dusted with a waxed cotton cloth each day. At longer intervals, a cloth that is freshly moistened with liquid wax should be used.

To wash furniture, she suggests making a suds of alkali free soap and soft water. Wash greasy furniture with this, rinse in clear water and wipe dry. Alkali will injure the finish of almost any wood. To clean oak furniture, wipe with a cloth dampened in turpentine. A cream made of beeswax and turpentine may also be used on oak. To make this cream, cover chipped beeswax with a small amount of turpentine, place in an earthen jar in a pan of hot water until the wax melts. Care must be taken in handling turpentine near a fire. Add turpentine until the mixture is thick and creamy. Apply to oak with a linen cloth and polish with a soft cloth.

For light woods, Miss Wilder recommends a cream made by covering equal parts of shredded beeswax, white wax and castile soap with turpentine. Heat until melted in an earthen jar by placing in a pan of hot water. Add an equal quantity of boiling water and stir constantly. Apply very little at a time with a soft cloth in a circular motion and finally rub with the grain.



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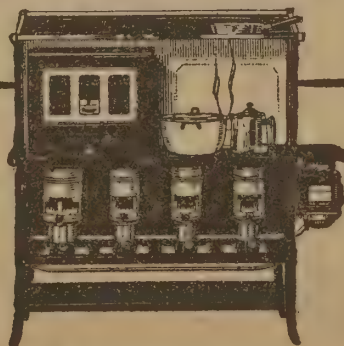
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No. 2371—Pretty Style for "Best." How would you like this charming style developed in one of the new printed silks or taffeta in that lovely new shade of blue called pervenche? Blonde silk crepe or satin is another delightful possibility. Cut in sizes 16 years and 36 to 42 inches bust measure. Size 36 requires 2½ yards of 40-inch material.

No. 2300—Becoming Style for Full Figures. Cut in sizes 36 to 46 inches bust measure. Size 36 requires 4¼ yards of 40-inch material. Hot-iron transfer pattern No. 730 (blue and yellow) costs 15 cents extra.

No. 2412—The Whole Town's Wearing the Suspender Dress. How about making the skirt of tangerine kasha and wearing it with a blouse of white flat silk? Cut in sizes 16 years and 36 to 42 inches bust measure. Size 36 requires 1½ yards of 40-inch material for the skirt and 2½ yards of 40-inch material for the blouse.

No. 2307—Two Ways to Make It! Checked flannel with plain flannel for trimming was chosen

for this design, the patterns for which cut in sizes 16 years and 36 to 42 inches bust measure. The smaller sketch shows the dress made of crepe-back satin, both the lustrous and dull sides of which have been used. Size 36 requires 3¾ yards of 40-inch material with ½-yard of 36-inch contrasting for the long-sleeved dress.

No. 2121—Becoming One-Piece Dress. The accompanying diagram is a reduced likeness of the pattern which cuts entirely in one piece. Cut in sizes 16 years and 36 to 42 inches bust measure. Size 36 requires 3 yards of 36-inch material with ¼-yard of 36-inch contrasting.

No. 2383—Smart One-Piece Dress. Cut in sizes 14 and 16 years and 36, 38 and 40 inches bust measure. Size 36 requires 3 yards of 42-inch material with ½-yard of 32-inch contrasting.

No. 2363—The Dress That's Made a Hit! The youthful, center-front closing dress is very popular. This jaunty little one is made with a mannish notched collar and the drop shoulders form

short sleeves. Cut in sizes 16 years and 36 to 44 inches bust measure. Size 36 requires 3 yards 32, 36, or 40-inch material with ½-yard of 27-inch contrasting.

No. 2378—Cunning Dress for Wee Maids. This darling little dress cuts in two pieces as shown in the accompanying diagram. The pieces are seamed on the shoulders and under the arms and an inverted plait is laid each side of the skirt. It will take only an hour or two of your time to make. Cut in sizes 2, 4, 6 and 8 years. Size 4 requires 1½ yards of 36 or 40-inch material.

No. 2377—Front Fullness Stressed. Many of the season's favored features are combined in this style of kasha, flannel, twill, ribbed silk or silk crepe. The inverted plait at the front of the skirt is a feature decidedly new and smart. Cut in sizes 16 years and 36 to 42 inches bust measure. Size 36 requires 3¾ yards of 40-inch material. The hot-iron transfer pattern No. 717 (blue and yellow) costs 15 cents extra. (Cont'd on page 125)

How to Order To order any of the items shown on this page, write your name and address plainly, give correct number and size wanted. Enclose 12 cents for each separate pattern ordered, and address your letter to Pattern Dept., Successful Farming, Des Moines, Iowa. Every pattern is seam-allowing. Patterns will not be exchanged. Do not request it. Please allow a few days' time for filling the order.

New Spring Fashion Magazine pictures many new styles, a number of hot-iron transfer designs, illustrated dressmaking lessons, a section devoted to styles for children for school, play and "dress-up"; and pages of pretty, fancy things that you can make. We suggest that when you send your pattern order you enclose 10 cents extra for a copy.

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No. 2382—Pretty One-Piece Dress. This is just the kind of dress every woman needs. It is simple to make and very attractive for general wear. Cut in sizes 16 years and 36 to 42 inches bust measure. Size 36 requires 3 1/4 yards of 36-inch material with 2 1/2 yards of binding. The hot-iron transfer pattern No. 717 (blue and yellow) costs 15 cents extra.

No. 2385—Slip to Wear With Your Tunic Blouses. The costume slip is the basis of the tunic frock. This slip provides for a built-up shoulder-line with a deep V-shaped neckline at front, and also for a straight upper edge with shoulder straps. Cut in sizes 16 years and 36 to 46 inches bust measure. Size 36 requires 2 3/4 yards of 40-inch material with 3/4-yard of 32-inch contrasting.

No. 2379—Jaunty Frock for Juniors. The dress that's made a hit with the grownups and that is now becoming very popular for little girls, is shown in this illustration. Cut in sizes 6, 8, 10 and 12 years. Size 8 requires 2 yards of 27-inch material with 3/4-yard of 18-inch contrasting.

No. 2353—Cunning Suit for Small Chaps. This pattern which comes in sizes 2 to 12 years consists of a blouse made with or without the applied box plaits and separate front or side-closing trousers. Size 8 requires 1 1/2 yards of 36-inch material for trousers with 1 1/2 yards of 36-inch plain material for waist.

No. 2386—Attractive Apron. The pattern comes in sizes small, medium and large. The medium size requires 1 1/4 yards of 36 or 40-inch material with 3/4-yard of 32-inch contrasting.



NEW STYLES FOR SPRING

In general the straight beltless dress is still very good for spring. It may have fullness below the waist in flares, circular effects, plaits, etc. If there is any waistline, it is very low.

The length of skirts is diminishing. Ten to fourteen inches from the floor is the accepted skirt length for dresses and suits.

Perhaps the most popular outfit for the spring is "the Ensemble" (on-som-ble). This is the costume planned as a whole and worn together. It consists of a coat and dress. The dress is any simple wool or silk dress in the one piece, or long tunic blouse. The coat may be seven-eighths length or long enough to cover the skirt. It may be made of light weight woollens or silks. Usually the dress is made of same material as the lining of the coat if the latter has a lining.

The tunic blouses are especially good this spring, both in long and short lengths. They are usually very straight, narrow and beltless. The slip is usually made of contrasting material or of the material used as trimming on the tunic.

The sleeves are extremely short, or very long and close fitting, tho at times there are puffs below the elbow made of contrasting color, plaid, or embroidery.

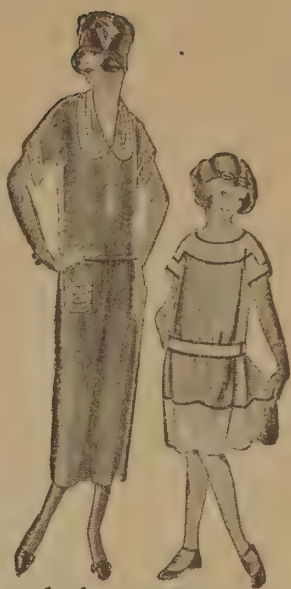
One of the redeeming features of the straight dresses are the draperies which are used a great deal. Draperies of all kinds from jabots on wool dresses to cascades on the silk dresses, are used extensively. This relieves the severe simplicity which is sometimes hard to wear.

In the line of trimmings are buttons of almost every description—crystal, silver, gilt, wood, etc.—bands and pipings of contrasting materials, bound pockets and some embroidery. Aprons, plain or plaited or gathered, are found on many of the dresses.

To make bias tape fold a piece of material to make a square. Fold and cut diagonally. Next take the triangular piece from the right side and lay the upper straight edge of that piece, with the lower straight edge of the other triangle and stitch with a narrow plain seam. This leaves a bias edge at the top and bottom. Next form a tube by folding the points to the opposite corners, leaving the points extending beyond the seam as far as the width of bias wanted. Then stitch. It is now ready to cut. Start at one point and cut round and round the tube making one long strip (like peeling an apple). Then turn edges and press.

Dress of lavender linen trimmed with Bias Tape in fine white lawn.

Girls' dress of striped cotton suiting combined with plain suiting and percale Bias Tape.



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Bed Time Stories

WHAT FATTY ROBIN MISSED

He was named Happy Robin, but he was always called "Fatty" because he was so plump. He was plump because he ate so many worms. When he was just a tiny nestling he always had his mouth open for them. Father and Mother Robin worked very hard to find worms enough for their family of three—Fatty and his brother Flitter and his sister Carol. The parent birds were just as busy as they would have been had they four mouths to feed instead of three, for Fatty ate as much as did the other two birds together.

He certainly was greedy, for he managed to grab the nicest, biggest, juiciest worms brought to the nest, before Flitter and Carol knew what was coming.

By and by the young robins were big enough to leave the nest and hunt their own worms. Then Fatty had great fun stuffing himself all day long. Back and forth across the green lawn he hopped, busy as anything. He would put his head on one side and listen until he heard a worm crawling under the ground, when he would hop upon the spot, give a sharp stab with his bill, and Mr. Worm was down Fatty's throat in a twinkling.

"Come, children," said Mother Robin one day, "it is time for your flying lesson."

Flitter and Carol fluttered away after their mother to a branch of the tree, but Fatty was on the trail of a worm and did not follow.

And so it went on. Flitter and Carol learned to fly beautifully and became very swift of wing; but Fatty was always so busy hunting something to eat that he missed his flying lesson.

It was just the same with the singing lessons. One cannot sing with a mouth full of worms, you know.

The other two children developed very fine voices, while their brother never tried to sing.

By and by Flitter and Carol found mates and began building nests of their own. As they flew back and forth, busily carrying straws and strings and bits of mud for the new homes, they sang all day long. And when there were eggs in the nests, they sang more than ever.

"Why do you make so much noise?" asked Fatty, down on the lawn.

"Why, Brother Fatty, the world is so beautiful, how can one help singing?" cried Flitter. "Just see that fleecy cloud against the blue, blue sky. Doesn't it make you want to sing?"

"Cloud? Where?" asked Fatty.

"Why, right over your head. Can't you see it?"

Fatty twisted his neck and turned his eye upward again and again, but he could not see so far. He had always kept his eyes upon the ground hunting for worms until they were no good for seeing things high up.

"Let me tell you, Fatty," said Carol, "it is time you were finding a mate and building a home of your own. You are getting nothing out of life but just worms."

Fatty wiped his bill and thought a minute.

"How shall I get a mate?" he asked, with one ear toward the ground.

"Why, just hop up to some redbreast lady and sing a lovesong to her."

But poor Fatty could not sing. When he tried it the lady birds all laughed, it was so funny. So Fatty Robin went back to his worm-chasing.

All summer he lived on the lawn, only flying far enough to keep out of the way of wicked cats and cruel stones. He never saw the rocking tree-tops, the blue sky, the beautiful sunset or the rosy dawn.

When summer was over and cold winds swept down from the North, Mother and Father Robin, and Flitter and Carol and their mates and their children got ready to leave for the sunny southland.

"Come, Fatty," they called, "it's time to be off. We're starting this minute."

Fatty swallowed a few more big fat worms before he set off after the other birds. But, dear me, he had only gotten half a mile from home when his wings began to ache, and soon he had to stop and rest. His folks got farther and farther away while he kept on making a very bad matter of flying.

At last a cold rain-storm overtook him. He huddled up under a bush and tucked his head under his tired wing.

"I wish now I had taken time to learn how to fly," he said to himself. "It is going to be a very tiresome journey to the land where the flowers bloom. I will have to fly, fly every minute of the daylight to keep out of the way of snowstorms, not stopping to hunt worms no matter how tired or how hungry I am."

As soon as it stopped raining, the sorry little bird set out again. He flew his level best until he was out of reach of the cold storms. By the time he had found his folks in the southland he had grown thin from exercise, but he had learned to fly. The very next morning he began to take singing lessons. In time the lady birds came to admire him, and the old name, "Fatty," which no longer fitted, was dropped.

But Happy Robin, as he was ever after known, never got to be quite as good a singer or as swift a flier as his brothers and sisters who learned when they were young. —Josephine E. Toal.

SQUIBS FROM A FARM WIFE'S NOTE BOOK



I was a slave to the stocking basket until I tried darning the knees, toes and heels of the children's school stockings before they are worn at all.

In too many homes the ration for livestock is carefully balanced while the children's lunch boxes contain little else but cakes and sweets.

An envelope pasted on the inside cover of your recipe book will hold those loose recipes.

To remove soot from the bottoms of pans and kettles, rub with kerosene, sand and soap and rinse with hot water. Oil the bottoms of new kettles before setting over fire. The soot will not cling to them.

For a burn that is unbroken, cover with plain baking soda to exclude the air. Scalded parts should be bandaged with strips of cloth dipped in equal parts of olive oil and lime water. Never use flour or a dry bandage on a broken burn.

An old leather strap tacked to the wall lengthwise with tacks at three-inch intervals makes a convenient holder for knives.

If rat holes are found in the cellar or elsewhere, place some concentrated lye before them. The rats walk over the lye, lick it off their feet and finally are killed by the lye.

Before heating milk in a saucepan, boil rapidly a few spoonfuls of water (enough just to cover the bottom of the pan). The milk will not burn.

Put pieces of toasted bread into soups or gravies which are too salty, take them out in a few minutes, and it will be found that the bread has absorbed a good portion of the salt.



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This issue of Successful Farming contains at least 10,000 words devoted entirely to home problems and suggestions.

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The editors of our Home Department are thoroly trained for their work. Things they write and select are practical, helpful and interesting.

I believe if you will compare Successful Farming's Home Department with that of any other magazine you will find as many usable ideas in it as you can find elsewhere. Give the April number a real chance. Read every bit of the Home Department, starting on page 108, then tell us what you think of it. Letters of praise or criticism will be equally appreciated.

SUCCESSFUL FARMING, Des Moines, Iowa

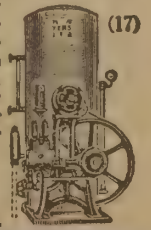
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Edge No. 1

TWO PRETTY EDGINGS

Patterns for crocheted lace edgings are always in demand. Here are two especially pretty ones that you will enjoy making. The width of the finished lace will vary, of course, with the size of thread used. I like best the laces made of rather fine thread, used on fine material. In all cases the size of thread should be chosen with regard to the material on which it is to be used.

A foundation chain must be three times the number of meshes in the first row plus 6 ch. when starting with a space; or 4 ch. when starting with a block; tr. in 9th st. from hook for 1st sp. or 4th st. from hook for first bl. Ch. 5 to turn and form space in succeeding rows.

Lace Edge Number One

1st row—1 bl. 6 sp. 1 bl. Repeat this twice.

4th row—4 bl. 2 sp. 1 bl. 3 sp. 1 bl.

5th row—1 bl. 2 sp. 3 bl. 4 sp. 1 bl.

6th row—1 bl. 3 sp. 2 bl. 1 sp. 2 bl. 1 sp. 1 bl.

7th row—1 bl. 2 sp. 3 bl. 4 sp. 1 bl.

8th row—4 bl. 2 sp. 1 bl. 3 sp. 1 bl.

9th row—like first. Repeat to desired length.

Lace Edge Number Two

1st row—3 sp. 1 bl. Repeat.

3d row—6 sp. 1 bl.

4th row—1 bl. 6 sp. 1 bl.

5th row—1 bl. 7 sp. 1 bl.



Edge No. 2

6th row—1 bl. 2 sp. 1 bl. 1 sp. 1 bl. 3 sp. 1 bl.

7th row—1 bl. 4 sp. 1 bl. 4 sp. 1 bl.

8th row—1 bl. 2 sp. 1 bl. 1 sp. 1 bl. 3 sp. 1 bl.

9th row—1 sp. 7 bl. 1 sp.

10th row—1 bl. 6 sp. 1 bl.

11th row—6 sp. 1 bl. Repeat from first row to desired length.

To add spaces, at the beginning of row: chain three times the number of sp. plus 5, tr. in 9th st. from hook for 19 st., sp. and continue as usual. Put final tr. of added sp. in last tr. of previous row. At end of row add sp. thus: Ch. 2, 1 tr. in same st. with last tr. for 1st sp. and for each succeeding sp. ch. 2, 1 tr. in middle of last ltr. (ltr. is for long treble). To add blocks: Double treble in same place with last tr. then dtr. in side of base of last dtr. until sufficient sts. are added. (dtr. is double treble).—G. S.

It happened to be ironing day when I stopped at a neighboring farmhouse where an unusual woman lives. And what do you suppose she was using to keep her iron smooth and bright? A simple and pleasing device, a box of pine needles over which she would run each iron as she took it from the stove. This not only kept her iron smooth but gave a nice woody odor and atmosphere to the room.—L. M.

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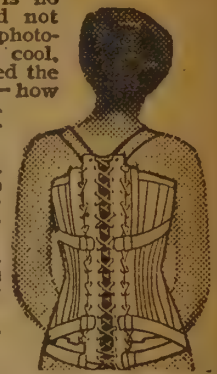
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FUN FOR THE FAMILY

Gloomily the man in the public library stood staring at the volumes of the encyclopedia—from AUS, down thru BIS and CHA, clear to ZYM.

"Guess I've got a lot to learn," he muttered. "I never get any of those stations on my set."

WE CAN'T BELIEVE THIS

Mother had come in from the farm to visit her daughter in the city. After the kiss of greeting, she noticed her daughter's bobbed hair. Her eyes opened wide in astonishment.

"Well, fer pity's sake, Lizzy," she exclaimed, "you never even writ me you had the typhoid."

Jack: "What kind of fellow is Blinks?"

Bill: "Well, he is one of those fellows who always grab the stool when there is a piano to be moved."

DISCOURAGING

It suddenly occurred to the small Boy Scout that he had neglected to perform his daily good deed. He approached the infirm old lady on the corner.

"May I accompany you across this busy street, ma'am?" he asked.

"Why, of course you may, you poor little fellow," she beamed. "How long have you been waiting for somebody to take you across?"

PUT HER FOOT IN IT

Lady (to guide in Yellowstone Park) — "Do these hot springs ever freeze over?"

Guide—"Oh, yes. Once, last winter a lady stepped thru the ice here and burned her foot."

THE ILL WIND

A couple of darkies were discussing an accident to a mutual friend.

"Suttinly am too bad Jefferson lost his laigs when de engine come along," sighed Sam.

"Mought be wuss," consoled the other. "Jeff had pow'ful bad rheumatism in dem laigs."

A PRACTICAL ANSWER

"If I cut a beefsteak in two," asked the teacher, "and then cut the halves in two, what do I get?"

"Quarters," returned the boy.

"Good. And then again?"

"Eighths."

"Correct. Again?"

"Sixteenths."

"Exactly. And what then?"

"Thirty-seconds."

"And once more?"

"Hamburger," cried the boy impatiently.

CODE SYSTEM

"I am a woman of few words," announced the haughty mistress to the new maid. "If I beckon with my finger, that means, 'Come'."

"Suits me, mum," replied the girl cheerfully. "I'm a woman of few words, too. If I shake me head, that means, 'I ain't comin'.'"

A GENERAL IDEA

A teacher instructing her pupils in the use of the hyphen, asked them to give her an example of its use, and the word bird-cage was submitted by a small boy.

"That's right," she encouragingly remarked. "Now, tell me why we put a hyphen in bird-cage?"

"It's for the bird to sit on," was the startling reply.—*The Furrow*.



"Lucky" Baking Days—Always

"I HAD good luck with my baking today." How often you hear it said! Or perhaps more often, "bad luck" is blamed for baking failures.

With a Monarch Malleable Range in your kitchen, there will be no "unlucky" baking days. You will always be sure of uniform heat—under perfect control, not only at first but throughout the many years a Monarch Range will serve you.

The Monarch gives the same good service year after year because it is built with an unbreakable frame of malleable iron. All joints are riveted permanently tight. And the flues are protected against rust damage by Vitrifused Linings.

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WALKING, TALKING, SLEEPING DOLL

BABY ALICE



Every little girl should have one of these beautiful dolls. We have provided a way so they can have one, too, because our offer given below is liberal.

This dolly is almost 14 inches high. It says "Mam-ma," plainly. A child can take it by the hand and the feet will move as in a regular walk, and the eyes close when the dolly is lying on its back. The eyes are fastened in its head so they will not come loose, as often happens with so-called sleeping dolls.

This doll is beautiful in appearance, and is very daintily dressed. The doll is unbreakable, too. It can be dropped time after time without breaking. Thru a fortunate arrangement with the manufacturer we are able to supply this doll for very few subscriptions. Please read our offer below carefully.

Our Liberal Offer: Baby Alice given, postpaid, for subscriptions to *Successful Farming* amounting to \$8. Subscription rates are 5 years for \$1; 2 years for 50c; 1 year for 25c. Your own subscription can be included in the club, but this reward cannot be given for one subscription alone.

**Successful Farming,
125 Success Building,
Des Moines, Iowa**

SWIFT



Bringing distant markets close

Farmers in eleven Mid-Western states produce much more butter, eggs and poultry than these states can use.

The excess amounts yearly to over 350,000,000 pounds of butter, 260,000,000 dozens of eggs, and 190,000,000 pounds of poultry.

Seven Eastern states, on the other hand, do not produce nearly enough to supply their own wants. The annual deficit in these states is more than 390,000,000 pounds of butter, 340,000,000 dozens of eggs, and 290,000,000 pounds of poultry.

Farmers in the Western states have a ready market for their surplus produce in the Eastern group. The problem—and it is a difficult one—is to get this produce to market.

Swift & Company has helped to solve this prob-

lem for the farmer by establishing gathering depots, known as "produce plants." At these depots, we grade and pack eggs, manufacture butter, mix the buttermilk with meal and feed it to poultry which is later dressed, graded and packed for market.

In spic and span refrigerator cars these products are then shipped direct to retailers through our branch selling houses, located in several hundred cities and towns.

In this way Swift & Company insures a reliable, continuous market for these products, and handles their distribution with such directness, efficiency and economy that the farmer receives the maximum return on the price paid by consumers.

Swift & Company's profit from all sources over a long period of years has averaged only a fraction of a cent a pound.

Other interesting facts are contained in the Swift & Company 1925 Year Book. A copy is given free. Address: Swift & Company, Public Relations Dept., 4110 Packers Ave., Chicago.

Please send me, free of charge, a copy of the Swift & Company 1925 Year Book.

Name.....

Address.....

City.....

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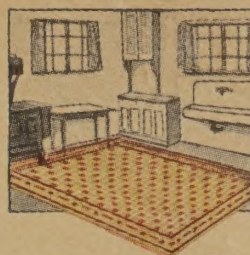


**For
Cleaner floors
with Less work**

***Armstrong's
Linoleum Rugs***

***Wear longer-genuine
cork linoleum clear
through to the
burlap back***

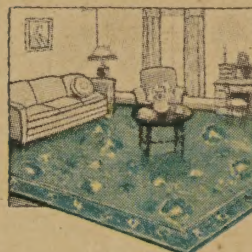
The cost is so little



Your Kitchen

About the easiest way to protect your kitchen floor from the stampede of heedless barmyard stained boots is to cover it with an Armstrong's Linoleum Rug. No more beating, shaking, or old-fashioned, back-breaking scrubbing brush methods.

"2 minutes mopping and—CLEAN!"



Your Living-Room

There's precious little beauty and no satisfaction left in a floor covering that still looks soil-stained and grimy right after you clean it. The beauty of an Armstrong's Linoleum Rug lies in the fact that it always looks neat and clean.

"2 minutes mopping and—CLEAN!"

**Send for
This Free Booklet**

**"RUGS OF
PRACTICAL BEAUTY"**

Send for this book of color-plates today. It tells you what you can do right now to make your floors attractive at low cost and how you can keep them attractive with far less work. Send for it today. It's free.



**"And even now, old floor, you're
not really clean. That's what's so
discouraging**

***—you ought to look far brighter after all the scrub-
bing I've given you. I'm THROUGH—I simply MUST
have a floor covering that's easier-to-clean."***

**Armstrong's Linoleum Rugs are easier-to-clean.
"2 minutes mopping and—CLEAN!" And they
stay clean longer because an Armstrong Rug is
always solid, genuine cork linoleum, clear through
to the burlap back.**

**You just *can't* dislodge ground-in soil from a floor
surface that splinters and chips off into pits and
jagged hollows, without going back—hands and
knees—to the old-fashioned, back-breaking scrub-
bing brush. So let's forget that, once and for all,
and get an ARMSTRONG RUG.**

ARMSTRONG CORK COMPANY

Linoleum Division

403 Jackson St., LANCASTER, PA.

**Armstrong's
Linoleum Rugs**

Look for the
circle A trademark
on the burlap back





On the floor above is shown Gold-Seal Congoleum Rug No. 546. In the 6 x 9-foot size it costs only \$9.00

“This Congoleum Rug saves so much time I don’t see how I ever got along without it!”

Drudgery flies out at the window as Gold-Seal Congoleum Rugs settle into place on the floor! Occasional light mopping is all the cleaning required to keep their firm, seamless, waterproof surface like new.

They require no tacking or fastening of any kind either—lie perfectly flat right where you lay them and never curl up at the corners or along the edges.

Moreover, Gold-Seal Congoleum Rugs are to be had in a variety of designs and rich fadeless color-combinations that are sure to add to the attractiveness of any room in the house. They are so beautiful and artistic that it’s hard to believe the prices can be so low.

Popular Sizes—Popular Prices

6 ft. x 9 ft. \$ 9.00	9 ft. x 9 ft. \$13.50
7½ ft. x 9 ft. 11.25	9 ft. x 10½ ft. 15.75
	9 ft. x 12 ft. \$18.00

The patterns illustrated are made in the five large sizes only. The smaller rugs are made in other designs to harmonize with them.

1½ ft. x 3 ft. \$.60	3 ft. x 4½ ft. \$1.95
3 ft. x 3 ft. 1.40	3 ft. x 6 ft. 2.50

Owing to freight rates, prices in the South and west of the Mississippi are higher than those quoted.

Important Warning!

There is only one “Congoleum” and it is identified by the Gold Seal which is pasted on every pattern. “Congoleum” is a registered trade-mark and the exclusive property of Congoleum-Nairn Inc. If you want “Congoleum” look for the Gold Seal.

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